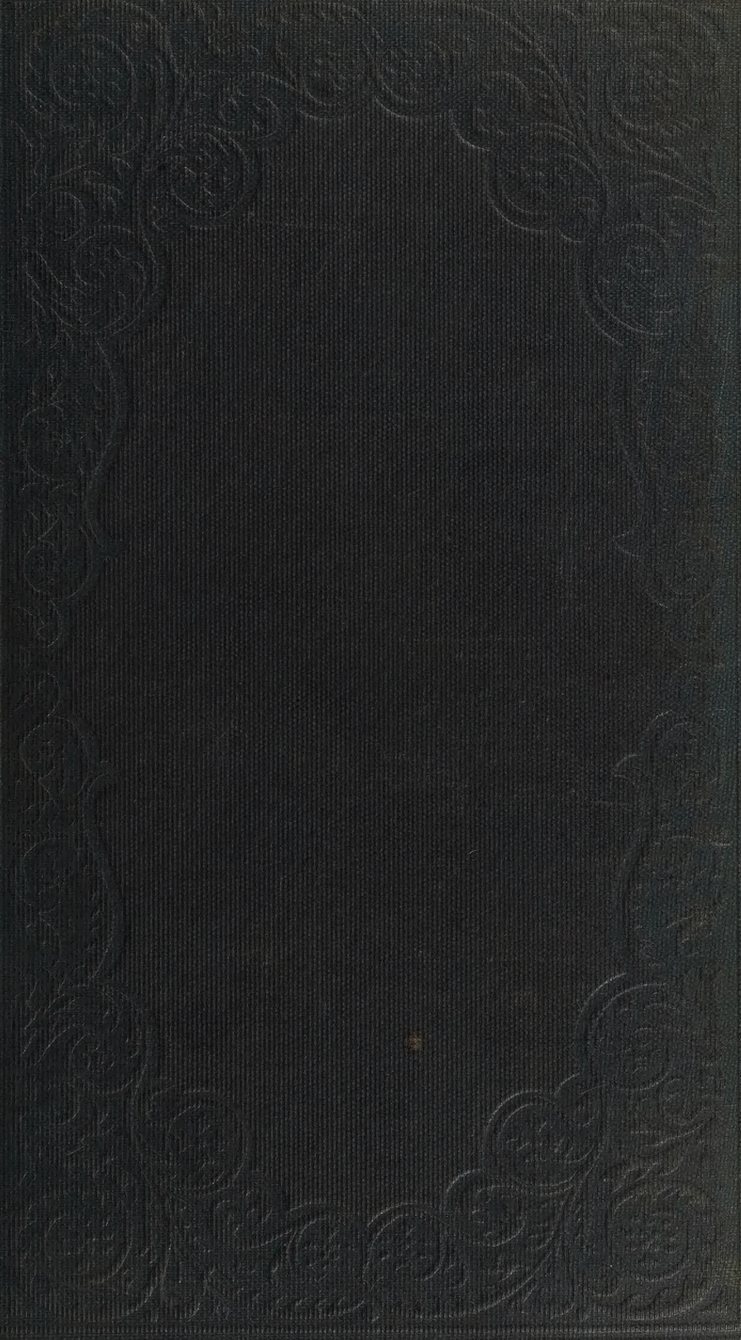


UNIVERSITY OF LONDON
MEDICAL LIBRARY

Medical Deposit (29)

This BOOK belongs to the
LIBRARY OF THE
Royal U ted Hospital, Bath.
Shelf No.

HO
Presented by the
H. W. FREE
May, 1899. pital.

SHL
WITHDRAWN

BRAITHWAITE'S RETROSPECT.

VOL. XCI. JANUARY—JUNE, 1885.

Letters for the Editor to be addressed

Dr. James Braithwaite, Clarendon Road, Leeds.

Parcels of Books, &c., to

Messrs. Simpkin, Marshall & Co., London.

PRINTED FOR D. I. ROEBUCK,
BY GOODALL AND SUDDICK, COOKRIDGE STREET, LEEDS.

THE

RETROSPECT OF MEDICINE:

BEING

A HALF-YEARLY JOURNAL

CONTAINING A RETROSPECTIVE VIEW OF EVERY DISCOVERY AND PRACTICAL IMPROVEMENT IN THE MEDICAL SCIENCES.

EDITED BY

JAMES BRAITHWAITE, M.D LOND.

FELLOW AND LATE VICE-PRESIDENT OF THE OBSTETRICAL SOCIETY OF LONDON.
LECTURER ON DISEASES OF WOMEN AND CHILDREN AT LEEDS SCHOOL OF MEDICINE.
SURGEON TO THE LEEDS HOSPITAL FOR WOMEN AND CHILDREN.
ETC.

VOL. XCI. JANUARY—JUNE, 1885.

LONDON:
SIMPKIN, MARSHALL, AND CO.
EDINBURGH: OLIVER AND BOYD. DUBLIN: HODGES, FIGGIS AND CO.
AND FANNIN AND CO.

MDCCCLXXXV.

THE EDITOR, on the completion of the ninety-first volume of "The Retrospect" (the first issued since the death of his revered father, with whom he has for twenty-five years been associated in the Editorship), takes the opportunity of recording his grateful thanks for the encouraging help received from many able and distinguished writers. The increasing circulation of the work, not only in this country, but throughout America and the Colonies, testifies to its usefulness and to its appreciation by the profession.

The following notice of the death of Dr. William Braithwaite appeared in the *Yorkshire Post*, of Feb. 2, and may be interesting to some of our readers :—"The announcement which we have to make this morning of the death of Dr. William Braithwaite, of Leeds, will be received with feelings of great regret, not only by the members of the medical profession of this town and district, but also by the public at large. He was the oldest medical practitioner in Leeds, and in his large and varied practice he was esteemed on all hands, both on account of his great knowledge, and for his sympathetic and kindly disposition. Dr. Braithwaite was born in 1807, and was therefore in his 78th year. His health for some time past has been such as to cause serious apprehension on the part of his family and friends, and his death on Saturday was not, therefore, altogether unexpected. He was brought up by the Rev. Richard Hale at the Harewood Vicarage, and was apprenticed to the eminent surgeon, Mr. Thomas Teale, and afterwards to his equally eminent son, Mr. Thomas Pridgin Teale, so that he pursued his medical curriculum under exceptionally favourable circumstances. He also studied at Guy's Hospital. The deceased gentleman commenced practice in Leeds in 1830, and filled the posts of Hon. Surgeon to the Eye and Ear Infirmary, and Lecturer on the Diseases of Women, &c., at the Leeds Medical School. Though occupied in the management of a large practice, he found time to add materially to the literature of his profession. In 1840 he commenced a medical work which has since become widely known. Its title is 'The Retrospect of Medicine.' It is published half-yearly, and has now reached the 90th volume. It is republished in America, where it is as widely known and as highly valued as here. During many years his eldest son has been co-editor with him of this journal."

CONTENTS OF VOL. XCI.

SYNOPSIS ... ... PAGES 13—100.

PRACTICAL MEDICINE.

DISEASES AFFECTING THE SYSTEM GENERALLY.

ARTICLE. AUTHOR. PAGE.
1 Influence of Antiseptics on Micro-Organisms ... *Dr. E. Klein* 101
2 Recent Observations on Cholera ... . *Dr. Dreschfeld* 102
3 On the Antipyretic Treatment of Fevers ... ... *Prof. Nothnagel* 104
4 On the Antipyretic Action of Salicin and of the Salicylates in Rheumatic Fever ... ... *Dr. F. J. B. Quinian* 106
5 On the Oil of Gaultheria (Wintergreen) as a New Remedy for Rheumatism ... . *Dr. H. H. Seelye* 108
6 On the Treatment of Gout ... ... *Prof. Beaumetz* 112
7 On the Clinical Manifestations of Rötheln, or German Measles ... ... *Dr. W. A. Edwards* 114
8 On the Causes of Scrofulous Neck... ... ... *Dr. Clifford Allbutt* 116
9 On the Treatment of Scrofulous Neck .. ... *Ditto* 120
10 On the Management of Children Born of Strumous Parents ... ... *Dr. Burney Yeo* 122
11 Disinfection of Clothes and Linen by Washing ... *Dr. J. B. Russell* 125

DISEASES OF THE NERVOUS SYSTEM.

12 On Alcoholic Paralysis ... . *Prof. Charcot* 128
13 On a Form of Alcoholic Spinal Paralysis ... ... *Dr. W. H. Broadbent* 130
14 On the Treatment of Migraine ... ... *Dr. Clifford Allbutt* 132
15 On the Action of Paraldehyde, the New Hypnotic ... *Dr. S. A. K. Strahan* 134
16 On Cocaine: the New Local Anæsthetic .. ... *Dr. Wm. Murrell* 136

DISEASES OF THE ORGANS OF CIRCULATION.

17 On a Case of Probable Thrombosis of the Superior Mesenteric and Renal Veins ... . *Sir William Gull, Bt.* 139
18 On Laryngeal Paralysis and Inequality of the Pupils, and their Value in the Diagnosis of Thoracic Aneurism ... . *Dr. J. Finlayson* 141
19 On Gouty Neuroses of the Heart .. .. *Dr. J. M. Fothergill* 145
20 On Some Indications for Treatment obtained by the Use of the Sphygmograph ... ... *Dr. J. M. Granville* 146
21 On Some Diagnostic Differences between Bronchitis and Heart Disease .. .. *Dr. Samuel Wilks* 147

DISEASES OF THE ORGANS OF RESPIRATION.

ARTICLE.	AUTHOR.	PAGE.
22 On Remedies for Asthma	*Dr. J. C. Thorowgood*	150
23 On Hay Fever and its Successful Treatment ..	*Dr. C. E. Sajous*	153
24 On the Nature of Croupous Pneumonia	*Sir Andrew Clark, Bt.*	156
25 On the Bacillus of Tubercle	*Watson Cheyne, Esq.*	158
26 On the Treatment of the Night-Sweats of Phthisis ...	*Dr. C. Cauldwell*	160
27 On Ozæna and Some Local Causes of Fœtid Breath ..	*Dr. P. M'Bride*	161
28 On Dry Catarrh of the Nose	*W. B. Dalby, Esq.*	166
29 On a New Method for the Removal of Laryngeal Growths	*Dr. W. C. Jarvis*	167

DISEASES OF THE ORGANS OF DIGESTION.

30 On Stricture of the Ileo-Cæcal Valve	*Dr. S. Fenwick*	169
31 On Peritonitis of Lower Abdomen—Perityphlitis ...	*Dr. W. T. Gairdner*	172
32 On Perforation of the Appendix Vermiformis ..	*Dr. S. Fenwick*	176
33 On the Treatment of Perforation of the Appendix Vermiformis	*Ditto*	180
34 On Hazeline in Hemorrhage from the Bowels ...	*R. Halpin, Esq.*	182
35 On the Dietetic Treatment of Dyspepsia	*Dr. Austin Flint*	183
36 On Lacto-Phosphate of Lime as an Aid to Nutrition	*Dr. Pelletan*	186

DISEASES OF THE URINARY ORGANS.

37 On Renal Disease in Early and in Middle Life ...	*Dr. J. F. Goodhart*	188
38 On Renal Coma	*Dr. R. Saundby*	191
39 On Some of the Varieties of Dyspnœa met with in Bright's Disease	*Dr. R. P. Howard*	194
40 On Winter Hæmoglobinuria	*Prof. Nothnagel*	196
41 On the Relation of Kidney Disease to Gout ...	*Prof. Virchow*	199
42 On Peptone in the Urine	... ...	200

SURGERY.

AMPUTATIONS, FRACTURES, DISLOCATIONS, AND DISEASES OF THE BONES, JOINTS, ETC.

43 On Corrosive Sublimate as a Surgical Dressing ..	*Sir Joseph Lister, Bt.*	201
44 On Turf-Moss and Sawdust as Surgical Dressings ...	*Dr. Pilcher*	210
45 On High Amputation for Senile Gangrene	*Prof. J. Hutchinson*	212
46 On the Drainage and Dressing of Amputation Stumps (*with woodcut*)	*Dr. James Whitson*	218
47 On the Escape of Cerebro-Spinal Fluid in Fractures of the Cranial Vault	*R. Clement Lucas, Esq.*	221
48 Catarrh of the Frontal Sinuses—Its Symptoms, and Treatment by the Trephine	*Prof. Alex. Ogston*	225
49 On the Direct Treatment of Psoas Abscess, with Caries of the Spine	*Frederick Treves, Esq.*	227
50 On the Causes and Symptoms of Acute Suppurative Osteomyelitis	*Thomas Jones, Esq.*	229

ARTICLE. AUTHOR. PAGE.
51 On Dislocation of the Clavicle Backwards and Inwards at its Acromial End ... ... *A. Macgregor, Esq.* 233
52 A Description of Colles's Fracture ... ... *R. Clement Lucas, Esq.* 235
53 On the Treatment of Dupuytren's Contraction of the Fingers ... ... *Dr. James Hardie* 236
54 On a Case of Charcot's Joint Disease ... .. *Wm. H. Jalland, Esq.* 238
55 On Chronic Articular Disease .. .. *Richard Barwell, Esq.* 241
56 On a New Long Splint for Fracture of the Thigh (*with woodcut*) .. .. *George Shirres, Esq.* 244
57 On a Cheap Form of Artificial Leg ... ... *Richard Barwell, Esq.* 246
58 On an Apparatus for Treatment of Fracture of the Patella (*with woodcut*) ... ... *Dr. J. H. Burge* 248
59 On the Treatment of Simple Cases of Congenital Club-Foot (*with woodcuts*) .. .. *Geo. A. Wright, Esq.* 249

ORGANS OF CIRCULATION.

60 On Partial Subcutaneous Laceration of Arteries ... *C. J. Symonds, Esq.* 254

ORGANS OF RESPIRATION.

61 Treatment of Effusions into the Pleura ... ... *F. Bowreman Jessett* 258
62 Paracentesis and Aspiration—On a New Aspirator and Knife (*with woodcuts*) .. .. *Dr. J. Ward Cousins* 260
63 On Some Complications of Tracheotomy, with Illustrative Cases ... ... *R. W. Parker, Esq.* 264
64 On Clearing Tracheotomy Tubes ... ... *J. Scott Battams, Esq* 266

ALIMENTARY CANAL.

65 On Gastrostomy for Stricture of the Œsophagus ... *John Fagan, Esq.* 267
66 Treatment of Cancerous Stricture of the Œsophagus by "Railway Catheters," &c. ... ... *James Berry, Esq.* 271
67 On Spontaneous Cure of Intussusception, and the Frequency of its Occurrence ... ... *Frederick Treves, Esq.* 275
68 On the Treatment of Intussusception ... ... *Ditto* 277
69 On the Aspirator as a Means of Diagnosis of Abdominal and other Tumours ... ... *F. B. Jessett, Esq.* 281
70 On the Successful Removal of the Lower Rectum for Cancer... ... ... *Editor of Lancet* 283
71 On Hernia of the Vermiform Appendix .. ... *N. Davies-Colley, Esq.* 285
72 Use of Cucaine in Operations on Hemorrhoids ... *F. S. Edwards, Esq.* 286
73 On Colotomy in Recto-Vesical Fistula ... ... *Prof Dumenil* 287

ORGANS OF URINE AND GENERATION.

74 Case of Supra-Pubic Operation (Peterson's Method) for Large Stone in the Bladder (*with woodcut*) ... *Sir H. Thompson, Bt.* 289
75 On a Simple Method of Washing-out the Bladder (*with woodcut*) ... ... *G. Buckston Browne, Esq.* 291
76 On Tubercular Cystitis ... ... *M. Terillon* 293
77 On a New Form of Dilator for Stricture of the Urethra (*with woodcut*) ... ... *W. J. Walsham, Esq.* 294
78 On the Treatment of Phimosis without Operation (*with woodcuts*) ... ... *W. S. Richmond, Esq.* 296
130 A New Knife and Staff for the Safe Performance of Lithotomy (*with woodcut*) .. . ... *Surg. H. W. Boyd* 416

AFFECTIONS OF THE SKIN, ETC.

ARTICLE.		AUTHOR.	PAGE.
79	On the Surgical Treatment of Strumous Glands (*with woodcuts*)	*T. Pridgin Teale, Esq.*	298
80	On Cysts in the Neck and their Treatment ...	*John H. Morgan, Esq.*	301
81	On Vaccinal Eruptions: their Causes, Prevention, and Treatment	*Dr. Robert J. Lee*	305
82	On Gangrene of the Skin and Cellular Tissue of the Arm following Vaccination	*R. Clement Lucas, Esq.*	308
83	Treatment of Vascular Hypertrophy of the Nose ...	*Dr. J. H. Stowers*	311
84	On Acne Rosacea and its Treatment	*Dr. Tom Robinson*	312
85	Instance of Cure of Lupus Erythematosus ...	*Prof. J. Hutchinson*	313
86	On Erasion and Nitrate of Silver in Lupus ...	*Dr. J. H. Stowers*	317
87	On Hydrochlorate of Cocaine in Pruritus Ani ...	*Malcolm Morris, Esq.*	318
88	On Oleate of Copper and its Employment in Parasitic Diseases of the Skin	*Dr. Le Sieur Weir*	319
89	On Some New Methods in the Treatment of Diseases of the Skin	*Dr. George Thin*	322
90	On the Treatment of Burns and Scalds	*Dr. J. Walton Browne*	324
91	On Skin Grafts from the Frog	*Dr. William Allen*	326
92	On Prepuce Grafting	*R. Clement Lucas, Esq.*	327
93	A Note on Prepuce Grafting	*Chauncy Puzey, Esq.*	329

DISEASES OF THE EYE AND EAR.

94	On the Relation of Certain Diseases of the Eye to Gout	*Prof. J. Hutchinson*	331
95	On Insidious and Destructive Iritis from Inherited Gout	*Ditto*	335
96	On Relapsing Cyclitis	*Ditto*	338
97	Can Gout Cause Optic Neuritis?	*Ditto*	339
98	On Retinitis Hemorrhagica and its Connexion with Gout	*Ditto*	342
99	On the Proofs of Gout in Relation to Diseases of the Eye	*Ditto*	343
100	Treatment of Adhesions of Iris to Cornea	*George E. Walker, Esq.*	345
101	On Treatment of Purulent Ophthalmia by Prolonged Antiseptic Irrigation	*Edgar A. Browne, Esq.*	349
102	On the Use of Atropine in the Diagnosis of Errors of Refraction	*Henry Juler, Esq.*	351
103	On Fatal Meningitis following Enucleation of the Eye-ball	*A. Hill Griffith, Esq.*	353
104	Treatment of Detachment of the Retina	*Dr J. R. Wolfe*	355
105	Case of Detachment of Retina Cured by Wolfe's Operation	*Dr. McGregor Robertson*	358
106	Case of Syphilitic Affection of Cerebral Nerves; with Affection of One Eye	*Henry Lee, Esq.*	359
107	On the Use of Cocaine as an Anæsthetic in Ophthalmic Practice	*Dr. Karl Koller*	361
108	On the Action of Cocaine on the Eye	*G. Hartridge, Esq.*	363
109	On Adenoid Disease of the Naso-Pharynx and Disease of the Middle Ear	*Dr. W. B. Dalby*	364
110	Trephining in Mastoid and Tympanic Disease ..	*Dr. W. I. Wheeler*	366

VENEREAL AFFECTIONS.

111	On the Treatment of Syphilis	*Alfred Cooper, Esq.*	369
112	On Gonorrhœal Rheumatism	*M. Terillon*	371

MIDWIFERY, AND THE DISEASES OF WOMEN, ETC.

ARTICLE.		AUTHOR.	PAGE.
113	On Two Cases of Gastrotomy for Extra-Uterine Gestation	*Dr. Jas. Braithwaite*	373
114	On a New Operation for Rupture of the Female Perineum	*Dr. C. J. Cullingworth*	376
115	On Post-Partum Avulsion of the Uterus, with a Case followed by Recovery	*J. H. Walters, Esq.*	380
116	Influence of Morbid Conditions of the Uterus in the Production of the Severe and Uncontrollable Vomiting of Pregnancy	*Dr. Graily Hewitt*	381
117	Ovarian Disease Connected with Pregnancy—Ovariotomy—Porro's Operation	*Geo. Fortesque, Esq.*	383
118	The Question of the Importance of Flexions and Displacements of the Uterus	*Dr. Graily Hewitt*	384
119	On the Operation of Shortening the Round Ligaments for Uterine Displacements	*Dr. W. L. Reid*	386
120	On Lupus of the Pudendum	*Dr. Matthews Duncan*	390
121	"Diseases and Accidents" of Uterine Fibromata	*Ditto*	394
122	On Endometritis	*Ditto*	398
123	On Two Cases of Double Oöphorectomy	*Dr. Rabagliati*	402
124	On Remote Puerperal Hemorrhage	*Dr. Gaillard Thomas*	404
125	Hydrorrhœa Gravidarum (Endometritis Catarrhalis Decidualis)	*Dr. J. A. Macdougall*	406
126	On a Case of Transfusion of Blood for Puerperal Hemorrhage, with a Modified Apparatus (*woodcut*)	*Dr. A. L. Galabin*	410
127	New Form of Vaginal Pessary (*with woodcut*)	*Dr. J. Sinclair Coghill*	412

ADDENDA.

128	A New Needle-Holder (*with woodcut*)	*Dr. J. Ward Cousins*	414
129	Hagedorn's Surgical Needles and Needle-Holder (*with woodcut*)	*Editor of Lancet*	415

SHORT ARTICLES IN SYNOPSIS,

NOT INCLUDED IN THE PRECEDING LISTS.

Antipyretics—Antipyrin	*Dr. E. J. Edwards*	13
Death after the Use of Antipyrin	*Dr. Barrs*	13
The Rarer Accidental Effects of Salicylate of Sodium	*Dr. Dreschfeld*	15
Lemon Decoction: a New and Simple Antipyretic	*Dr. L. Aiken*	16
Are Animals which have Died of Splenic Fever Dangerous as Human Food?	*A. F. McGill, Esq.*	16
On Bronchocele	*Dr. M. Mackenzie*	17
On Warm Douching of Head and Neck in the Insomnia of Continued or Eruptive Fevers	*Dr. A. J. Campbell*	17
On the Treatment of Diphtheria	*Dr. C. T. Renshaw*	18
On the Disinfection of Abdominal Excreta	*Dr. J. B. Russell*	19
On Hypodermic Injection of Phenol in Anthrax	*Dr. Jarnovsky*	19

	AUTHOR.	PAGE.
Use of Rhigolene as an Antiseptic, for Iodine Disinfection, and in Burns, Wounds, &c.	*Dr. W. B. Richardson*	20
Sulpho-Carbol, the New Antiseptic	*M. Vigier*	21
Nerve Stretching in Anæsthetic Leprosy of the Leg ...	*Arthur Neve, Esq.*	22
Use of Conium Juice in Chorea	*Dr. Sinclair*	22
Treatment of Neuralgia with Osmic Acid	*A. Eulenburg*	23
Treatment of Persistent Neuralgia by Excision of Inferior Maxillary Nerve	*Dr. Garretson*	23
On Resorcin as an Hypnotic...	*Andeer*	24
Treatment of Sciatica with Osmic Acid	*J. Merces, Esq.*	24
Local Application of Intense Cold in Sciatica ..	*M. Debove*	25
Static Electricity in Nervous Diseases	*Dr. Benedictoff*	25
Use of Caffeine as a Cardiac Tonic	*H. N. Hardy, Esq.*	26
Use of Convallaria Majalis in Cardiac Disease ...	*M. Labbee*	26
On Hazeline as a Hæmostatic Agent	*J. S. Gunning, Esq.*	27
On Tricuspid Stenosis	*M. Chauffard*	27
Effect of Pilocarpin in Bronchitis	*Dr. S. West*	28
On Catarrh of Posterior Nares and Naso-Pharynx in Relation to Sore Throat	*Dr. G. H. Mackenzie*	28
On Climate in Phthisis	*R. Gerner, Esq.*	28
Partial Excision of Ribs in Empyema	*Dr. Fulton*	29
Treatment of Laryngismus Stridulus	*Prof. Widerhofer*	30
On Pilocarpin in the Night-Sweats of Phthisis ...	*Dr. Samuel West*	30
Papilloma of the Larynx treated by Chromic Acid ...	*Dr. Jarvis*	31
Diagnosis of Pleuritic Effusion by the Aspirator ...	*F. B. Jessett, Esq.*	32
Use of Bicarbonate of Soda in Tonsillitis	*Dr. G. Partagas*	32
Prevention of Tubercular Infection	*Ed. Brit. Med Journal*	32
Action of Iodoform in Tuberculosis	*Dr. R. S. Smith*	33
On Acute Yellow Atrophy of the Liver	*Dr. Hyla Greves*	34
Mr. Makins on Artificial Anus treated by Resection of the Small Intestine	*Editor of Retrospect*	35
Musser and Keen on Cholecystotomy	*Ditto*	37
Nitrate of Silver Enemata in Chronic Diarrhœa ...	*Dr. S. Mackenzie*	38
Concretions in Vermiform Appendix and Cæcum ...	*Dr. Mahomed*	39
Cascara Sagrada in Constipation, Hemorrhoids, &c. ...	*J. F. Horne, Esq.*	39
On the Digestion of Fatty Foods	*Dr Lauder Brunton*	40
Fæcal Vomiting without Mechanical Obstruction ..	*Dr. Percy Kidd*	40
On Aspiration in Cases of Hernia	*F. B. Jessett, Esq.*	41
Case of Radical Cure of Hernia by Operation ...	*Dr. Rabagliati*	41
Prevention of Hernia after Laparotomy	*Hagen-Torn*	42
Use of the Aspirator in Liver Affections	*F. B. Jessett, Esq.*	42
On Malt Extracts as Food	*Dr. Milner Fothergill*	42
Debove's Treatment of Ulcer of the Stomach	*J. S. Bury, Esq.*	45
Suggested Modification of the Nitric Acid Test ...	*Dr. William Roberts*	46
On the Use of Cocaine in Catheterism	*Dr. F. N. Otis*	47
Use of Cocaine as an Anæsthetic for the Genital Mucous Membrane	*Dr. Ernst Frankel*	47
Use of Aspiration in Distension of the Bladder... ...	*F. B. Jessett, Esq.*	48
On Large Doses of Belladonna in Nocturnal Incontinence of Urine	*Dr. E. P. Thurstan*	49
Polyuria in Convalescence from Typhoid Fever... ..	*Dr. Spitz*	49
Use of Cocaine in Removal of Vascular Growths from the Female Meatus Urinarius	*Dr. Clement Godson*	49
Stricture of the Orifice of the Male Urethra	*Dr. Greig Smith*	50

	AUTHOR.	PAGE.
On the Nature and Prevention of Urethral Fever	*Victor Horsley, Esq.*	50
New Operation for Vesical Calculus in the Female	*Sur.-Major Beaumont*	51
New Method of Washing-out the Urinary Bladder	*"Beaver"*	52
Disease of Bone Near to or Part of a Joint	*Richard Barwell, Esq.*	52
Wladimiroff's Osteo-Plastic Operation on the Foot	*Ed. of Lancet*	54
Mechanism of Displacement in Fracture of Clavicle	*Dr. J. H. Packard*	55
Fracture of Clavicle treated by the "Cravat Method"	*Dr. Wetmore*	55
Ununited Fracture of Femur treated by Wire Suture	*Mayo Robson, Esq.*	56
Diagnosis and Causes of Fracture of Fibula	*Dr. Levis*	56
Fracture of Patella treated by Wire Suture	*Dr. H. A. Lediard*	57
Use of a Superior Curved Incision in Resection of Knee	*Prof. Bruns*	57
On the Treatment of Osteomyelitis	*Thomas Jones, Esq.*	58
On a New Splint for Talipes (*with woodcut*)	*F. T. Paul, Esq.*	58
Wood-Wool and Corrosive Sublimate as Antiseptics	*Prof. Billroth*	60
On Aspiration in Deeply-Seated Abscesses	*F. B. Jessett, Esq.*	61
Injections of Ether and Iodoform in Cold Abscesses	*Prof. Verneuil*	62
Fatal Case of Acute Pemphigus	*Dr. D. Duckworth*	62
Boracic Acid Oil as a Dressing for Burns	*C. J. Bond, Esq.*	63
Treatment of Chronic Hypertrophic Rhinitis	*Spencer Watson, Esq.*	63
Use of Jequirity in Chronic Ulcers and other Long-standing Diseases of the Skin	*Dr. J. V. Shoemaker*	64
Use of Zinc Oleate for Excessive Local Sweating	*Ditto*	65
Extraction of Needles through the Skin and Tissues	*M. Despres*	65
Treatment of Ingrowing Toe Nail	*Dr. J. W. Browne*	66
Lead Oleate in Papular and Pustular Eczema	*Dr. J. V. Shoemaker*	66
New Way of Using Chrysophanic Acid in Ringworm	*Dr. Alder Smith*	67
Chloroform as a Vehicle for Remedies in Ringworm	*Malcolm Morris, Esq.*	68
On Washing the Scalp in Ringworm	*Armand Bernard, Esq.*	68
Tincture of Iodine and Turpentine in Ringworm	*Dr. James Foulis*	68
Use of Boroglyceride in Ringworm	*Dr. J. V. Shoemaker*	70
Use of Copper Oleate in Ringworm	*Ditto*	70
Treatment of Sprains by the Elastic Bandage	*M. Marc See*	71
Use of Bismuth Oleate in Sycosis, Erysipelas, Sunburn, Acne Rosacea, Eczema, &c.	*Dr. J. V. Shoemaker*	71
Use of Naphthaline in Wounds, Ulcers, Burns, &c.	*Dr. Stewart*	72
Treatment of Buboes by the Pneumatic Aspirator	*Surg.-Major Hogg*	72
Formula for Iodoform Injections in Gonorrhœa	*N. Y. Med. Record*	72
Abortive Treatment of Soft Sores	*Prof. Hebra*	73
Use of Jacarana Lancifoliata in Venereal Disease	*Z. Mennell, Esq.*	73
Treatment of Syphilitic Condylomata	*Ed. Phil. Med. Reporter*	74
Amblyopia from Vapour of Bisulphide of Carbon and Chloride of Sulphur	*E. Nettleship, Esq.*	75
On Cocaine as a Anæsthetic in Ophthalmic Practice	*Ed. Medical Times*	76
Use of Cocaine in Ophthalmic Cases	*Lucien Howe, Esq.*	78
Transitory Results from Use of Cocaine	*Arthur Benson, Esq.*	78
Treatment of Glaucoma by a Large Iridectomy	*F. R. Cross, Esq.*	79
On the Effects of Jequirity upon the Conjunctiva in Health and in Disease	*Arthur Benson, Esq.*	80
On the Prevention of Ophthalmia Neonatorum	*Dr. H. J. Garrigues*	81
The Treatment of Otorrhœa by Dry Powders	*Dr. Chas. Warden*	81
Relation of Certain Diseases of the Eye to Gout	*Prof. Hutchinson*	82
Chronic Disease of the Uterine Appendages	*Lawson Tait, Esq.*	84
Extirpation of Uterus by the Vaginal Method	*Dr. J. Wallace*	84
Treatment of Hemorrhagic Endometritis by Erasion	*Dr. A. Macdonald*	85
Case of Labour with Kyphotic Pelvis	*Dr. G. E. Herman*	86

	AUTHOR.	PAGE.
Emmet's Operation for Laceration of the Cervix Uteri ...	*Dr. W. S. Playfair*	87
Do. do. do. ...	*Dr. A. Macdonald*	89
Pelvic Anodyne—Action of Conium and Bromide of Potassium on the Ovaries	*Dr. A. Meadows*	89
Arnold and Sons' Glycerine Pad Pessary	... ...	90
Diagnosis of Pregnancy during the Early Months ...	*Dr. F. Barnes*	90
Treatment of the Pruritus of Pregnancy	*Dr. R. Neale*	90
Iodoform Insufflation in Puerperal Septicæmia ..	*Dr. Boardman*	91
Removal of Uterine Appendages for Inflammatory Disease by Abdominal Section	*Lawson Tait, Esq.*	92
Treatment of Retro-Uterine Hæmatocele	*Ed. of Medical Times*	92
On Scarlet Fever in Pregnancy	*Dr. Leale*	92
The "Spiny Pelvis" and its Obstetric Consequences ...	*Dr. M. Hofmeier*	93
Rules for Treating the Third Stage of Labour	*Dr. W. J. Smyly*	94
A Point in the Management of the Third Stage of Labour	*Dr. Walter*	94
On Alcoholic Injections in Uterine Hemorrhage ...	*A. H. F. Cameron, Esq.*	94
The Puff-Ball in Uterine Hemorrhage	*Thos. Duncan, Esq.*	95
Removal of Uterine Appendages in Uterine Myoma ..	*Lawson Tait, Esq.*	100

INDEX.

SYNOPSIS.

An Abstract of the most Practical Articles in this Volume, with other Short Articles from the Medical Journals, showing the most important indications of Treatment published by different writers during the half-year. Arranged Alphabetically.

AFFECTIONS OF THE SYSTEM GENERALLY.

Antipyretics. -*Antipyrin.*—Antipyrin is a quinoline derivative discovered by Knorr, of Erlangen, and first investigated by Filehne. It is a white crystalline powder, readily soluble in water, and of weak easily disguised taste. According to Filehne, it promptly lowers the temperature, in doses of 5 or 6 grammes (=77 or 92 grains), best given in three portions, with an hour's interval between. The temperature falls gradually, usually without sweating, and reaches its limit in three or four hours. It remains low for seven or eight hours as a rule, but twenty hours may elapse before the original temperature is reached again. The rise is not accompanied by shivering. The pulse is retarded, but not proportionately to the temperature. No unpleasant symptoms occur, except vomiting in some cases after large doses. The urine was always free from albumen, and was not darkened. Half the above dose (7¼ grains) is enough for children, in sugar and peppermint. Guttman, Falkenheim, Ranke, and other observers, are quoted as generally confirming the above observations upon its uses. (Dr. E. J. Edwards, Medical Record, Oct. 15, p. 431.

Death after the Use of Antipyrin.—Antipyrin is one of those remedies which will probably take a prominent place in the materia medica of the future, and it is, therefore, the more necessary to publish cases where untoward results have followed its use. As a rule, it appears to be a drug the administration of which is not followed by unpleasant symptoms, though vomiting, a peculiar exanthematous rash resembling measles, and, as in the case referred to by Mr. Blore in his remarks, collapse, have followed its use. Antipyrin is a very valuable means of reducing the temperature and the frequency of pulse and respiration in fevers and febrile diseases, the effect being prolonged from ten to twenty hours. It does not, however, appear to act as an antiperiodic. Chemically it is described as dimethyl-chinizin, and is stated by Dr. Knorr, of Erlangen, to be one of a series of derivatives from a hypothetical base, to which he has given the name "chinizin." The chinizin derivatives are products of the action of diacetic ether upon one of the hydrazines. H. M——, aged thirty-five years, was admitted to the Leeds Fever Hospital on Jan. 15th, 1885, with the following history. On Dec. 4th, 1884, the patient had a miscarriage in the fifth month of pregnancy. From that date to the day of admission (six weeks) she had been confined to bed. Soon after the miscarriage she suffered from pain in the lower part of the abdomen, vomiting, headache, and shivering; and, later on, from diarrhœa. She became progressively weaker, but never lost consciousness. She was kept on milk diet, and the vagina was syringed. She was sent to the hospital as a case of enteric fever. The length of the illness, the course of which seemed to have been uninterrupted, its commencement with a miscarriage, and the absence of any signs distinctly pointing to enteric fever, led to the case being regarded as probably of a puerperal nature, but no exact diagnosis beyond the negation of enteric fever was made. In the evening of the day of admission the temperature rose to 103·2°. On the second day after admission, five grains of quinine three times a day having had no effect on the temperature, thirty-five grains of antipyrin were administered. The patient died thirty-two hours afterwards. *Remarks by Mr. Blore, the house-surgeon*:—The chief interest in the above case lies in the effect of the antipyrin. From the day of admission to the time of taking the drug there had been uniformly a high temperature. Within three hours the temperature had become normal, or subnormal, and did not subsequently rise until the patient was actually dying. It is recommended by those who have had most experience of the drug that thirty grains be given as often as every hour for three doses, or a single dose of sixty grains, in either case much more than the patient in question took. In the case of other adult patients here, single doses of twenty or thirty grains have produced only a temporary remission, the temperature having resumed its former height within four hours. It was with the view of preventing this rise that the second smaller dose was ordered to be given three hours after the first. This object was certainly effected, but unfortunately no improvement, but the reverse, took place in the other symptoms, and collapse ensued. The chief attribute urged in favour of antipyrin is that dangerous symptoms never follow its use. May alone (Deutsche Med. Woch., 1884) mentions a case of collapse after antipyrin, but is uncertain whether to attribute the collapse to the drug or to the course of the disease. In the case above described, though the patient was undoubtedly very ill, there can be no question that the extreme depression, accompanying the fall of temperature, was directly due to the action of the drug. (Dr. Barrs, Lancet, Feb. 28, p. 382.)

Salicylate of Sodium.—The Rarer Accidental Effects of.—The extensive use which is made of sodium salicylate, and the very large doses of this drug which are now administered, make it desirable that its rarer accidental effects should be widely known, especially as they simulate the symptoms seen in acute eruptive fevers, are of a very grave nature, and have in a few instances led to a fatal issue. It is scarcely necessary to allude to the more common by-effects of salicylate of soda, such as profuse perspiration, headache, tinnitus aurium, deafness, vertigo, and delirium of a highly-exciting nature, or to those relating directly to the intestinal tract, such as nausea, vomiting, and diarrhœa. The rarer effects are the production of a rise of temperature, which may reach 104° or more, various skin affections, such as erythema, erythema nodosum and urticaria, and dyspnœa with great oppression. These symptoms may occur singly or combined. (Dr. J. Dreschfeld, Medical Chronicle, Dec. p. 238.)

Lemon Decoction: a New and Simple Antipyretic.—Little more than a year ago, the attention of physicians in Italy was drawn to a new and simple cure for ague by Dr. Maglieri, in a short article which appeared in one of the Italian medical journals. The remedy was merely a decoction of lemon; and Dr. Maglieri heard of it originally from his uncle, a farmer, who had frequently used it to the benefit of some of his farm-labourers, the victims of malarial affections, which had resisted better known means of cure. In his notice of its effects, Dr. Maglieri pointed out that it was probably the method alone of preparing the lemon decoction which gave it the value it apparently possessed, as, in this land of malaria and of lemon-trees, the ordinary juice of the fruit must have been employed many millions of times in different forms of ague, without any great effect having ever been ascribed to it by patients or physicians. Dr. Maglieri had himself used it successfully, not only in cases of chronic malarial cachexy, but also in pernicious malarial fevers; and it was the happy issue of some of his experiments, in such dangerous illnesses, that induced him to publish the article mentioned. I made a trial of the lemon decoction, prepared as directed by Dr. Maglieri, in two cases: one a simple quotidian ague, the other a case of enteric fever, complicated with obstinate intermittent attacks, which retarded recovery; and in both instances much benefit was derived, and the quinine could be given up: this was a considerable gain in itself, as the two patients seemed to suffer more than is usual from the unpleasant effects of large doses of that drug. It was prepared as directed by Dr. Maglieri; a freshly gathered and unpeeled lemon being taken, cut into thin slices, put in three teacupfuls of water, and boiled down to one teacupful in a clean earthenware jar. This quantity of the decoction was then allowed to stand overnight in the open air, and given the first thing in the morning, after the liquid had been separated from the rind, pulp, and seeds, by careful filtration and compression just before it was drunk. It has also been given by me in several other cases of mild enteric fevers, with malarial manifestations; and in a few cases of uncomplicated intermittent fevers, occurring as late as May and June; and the effects observed have been as good as those of large doses of quinine. In these cases, about a dozen altogether, the temperature was taken every three or four hours; and the charts, before and after the use of the remedy, are most instructive. It has never seemed necessary to give the decoction prepared from more than one lemon daily; but there can be no reason why more than one draught should not be taken in the three hours, if required. It was noticed that freshly plucked lemons had more apparent effect than those not quite recently gathered, a serious drawback, in the meantime, to the use of the decoction in countries where there are no lemon-trees. But the active principle contained in the decoction will no doubt soon be extracted, and come into general use. What that is, is, as yet, quite uncertain, although it is obvious that it is not the citric acid. The alkaloidal principles, hesperidine and limonine, said to be obtained from lemons, are quite unknown to medicine; and no experiments have been made to ascertain their physiological properties. From the results of the use of the decoction, it seems legitimate to hope that the remedy will prove a potent, safe, and cheap antipyretic. (Dr. Lauchlan Aiken, Rome, British Med. Journal, Oct. 4, p. 653.)

ARE ANIMALS WHICH HAVE DIED OF SPLENIC FEVER DANGEROUS AS HUMAN FOOD?—Upon this point, Mr. McGill, surgeon to the Leeds General Infirmary, observes, "As animals which die of splenic fever are in this district disposed of in the usual manner and sold for human food, it is interesting to know what is the effect of the bacillus when taken into the stomach. Koch made some experiments on sheep, with the object of elucidating the point. He found that sheep might be fed with unlimited quantities of the bacilli free from spores, and that no bad result occurred; but if the virus contained spores in an active state of development, death invariably occurred within two days. Fortunately the meat that is eaten will all be cooked, and we may hope that the bacillus is thus destroyed, and that no harm results. But the risk that is run by the persons who have to prepare and dress the meat derived from diseased carcases is only too evident. While meat of this description is sold in the open market, we should remember that cases of charbon may come under our notice, in which it will perhaps be impossible to ascertain the mode of infection." (Mr. A. F. McGill, Lancet, Dec. 6, p. 995.)

Bronchocele.—In his paper on the treatment of bronchocele, the necessity of accurate diagnosis in the first place was insisted on by the writer as being the only basis of successful treatment. The following is a summary of his conclusions, which, it must be observed, do not embrace exophthalmic goître or malignant bronchocele:—(1) Simple goître (enlargement of the thyroid body), of recent origin and occurring in young persons, can, in the absence of endemic influences, generally be cured by the administration of iodide of potassium, and in many cases by counter-irritation. (2) Fibrous goître is best treated by parenchymatous injections of tincture of iodine. (3) Cystic goître can be most readily cured by conversion of the cyst into a chronic abscess, which is effected by emptying the sac, injecting a small quantity of a solution of perchloride of iron, and allowing it to remain within the sac for three or four days. (4) When the cyst is of considerable size it should not be emptied at once, but should be tapped two or three times before the injection is used. (5) Removal of the thyroid body is a dangerous operation, which should never be performed for mere cosmetic purposes, nor even for the relief of urgent dyspnœa, except when less radical measures have failed. At the conclusion of his discourse, Dr. Mackenzie showed the instruments which he was in the habit of using, viz., the trocar and canula for tapping cysts, and a syringe of peculiar construction for injecting perchloride of iron without risk of the entrance of air. (Dr. Morrell Mackenzie, Medical Times, Oct. 4, p. 480.)

Continued or Eruptive Fevers.—*Warm Douching of the Head and Neck in the Insomnia of.*—While I agree entirely as to the unsuitableness of such a proceeding as plunging a timid disease-weakened patient into cold water, I wish to point out what I consider a most pleasant and soothing method of employing a douche, especially indicated in sleeplessness, and not contraindicated by cardiac debility; the proceeding is neither novel, difficult, nor disagreeable, and is productive of the best results if efficiently performed. The patient's shoulders having been wrapped in a sheet or blanket, and his ears plugged with cotton-wool, his head is supported over the edge of the bed (a suitable vessel being placed underneath to receive the water), whilst a gentle stream of warm water from the rose-spout of an ordinary watering-pot is directed over the head and neck. The watering-pot should be held at least eighteen inches above the level of the patient's head, and the douching may be kept up for three or four minutes; the head should then be lightly dried with a towel, and the patient lifted into his ordinary position in bed. As a rule, sleep is produced within a short time. In 1879, I was called one night to a severe case of scarlatina in a girl aged 13 years. Her temperature was high, the pulse very quick and feeble, the tongue brown; sordes had collected about the mouth; and there was jactitation. The rash was very dark-coloured, and her condition was rendered the more serious by sleeplessness, continuing for four days. On the day following my first visit, I administered the warm douche to her head and neck, the hair having previously been shortened. Within an hour after the process, she fell into a refreshing sleep, which lasted for about twelve hours, during which time she was disturbed two or three times for the purpose of administering food. The patient was soon convalescent, and I attribute her recovery to the timely relief given by the douche. (Dr. Arthur J. Campbell, Newcastle-on-Tyne, British Med. Journal, Jan. 24, p. 176.)

DIPHTHERIA.—See that your patient is placed in a well-ventilated room or tent; fill the room with some disinfecting material, in a gaseous form, not disagreeable to the patient; have an even temperature of about 60°; give, where possible, 2,000 cubic feet of air; let your patient be constantly watched, for in no case can it be more truthfully said, you know not what an hour may bring forth. If the temperature of your patient be high, stimulate freely and nourish constantly; if the pulse be quick or irregular, or if there be too great lowness of the pulse, such as shock might produce, stimulate freely. Quinine is better to be given, I think, in high temperatures than iron. The membrane should be freely painted with a saturated solution of permanganate of potassium, and a strong gargle of hypochlorous acid frequently used. If the membrane easily remove, let it be taken away as soon as possible, for it neither becomes organised nor does the mucous membrane heal underneath it, and the effluvium from it is often so offensive that it may well turn the scale against life; besides, there is considerable danger from mechanical suffocation, for the parchment-like membrane becomes thicker and thicker, and so may cause considerable, if not fatal, impediment to breathing. I would remove it, were it possible, if only to see what is going on below, and so save, I believe, those ulcers so difficult to cure, and that fearful sloughing which we occasionally come across when the membrane is left to itself. The treatment of the albuminuria is best conducted by hot applications to the region of the kidneys, the after paralysis by the internal administration of strychnine, and the external use of galvanism applied to the neighbourhood of the muscles that are in want of nerve force. Then there is no doubt much may be done to prevent the disease affecting other members of the family by the patient and nurse being entirely isolated; nor must the sheet over the door saturated with disinfectant be forgotten, and the patients' discharges being received into vessels containing disinfectants, and their clothes similarly treated. (Dr. C. T. Renshaw, Practitioner, Jan., p. 20.)

DISINFECTION OF ABDOMINAL EXCRETA.—Chemical disinfection of the abdominal excreta, as usually practised, I believe to be all but valueless. However accurately you have determined the efficient proportion of the agent to be used, what can you expect from passing the excretion into the solution or powder, or putting the solution or the powder on the excreta, and the next minute drenching the whole down the water closet? How can the agent, while in due proportion, have penetrated the fæcal masses and killed the contagia if we drown it at once in water? In order to meet this difficulty, I had water troughs substituted at Belvidere for ordinary water closets. These I intended to fill with a 1 to 15 mixture of strong muriatic acid and water, which would be renewed morning and evening. On calculating the annual cost of this procedure, I found it could not be done for less than £500 a year, for a daily average of 150 patients; not to speak of the difficulty of arranging for the safe distribution of such a quantity of corrosive acid. I therefore abandoned the project, and use cupralum in such quantity as will at least keep down odour. As an endeavour to disinfect fæces on a large scale, I cannot say my experience is encouraging. Use anything you please, but expect only deodorisation, and get rid of the fæcal matter into the sewers or into the earth without delay. When thoroughly immersed in water, it is harmless for the present, and an oily pellicle, as of terebene or paraffin, hermetically seals down the contagia. (Dr. J. B. Russell, Glasgow Med. Jour., Dec. p. 411.)

MALIGNANT PUSTULE.—*Hypodermic Injections of Phenol.*—The author, basing his conclusions on 102 cases of anthrax in his practice, states that the best treatment of this disease consists in hypodermic injections of 2 per cent. solution of phenol. All the seventy-two cases treated by the author after this plan from 1876 to 1884 recovered, many of them being very serious (some of the patients, presenting a malign pustule on the face or neck, were first seen not earlier than on the sixth or seventh day of the disease). In mild cases, the author advises to inject four syringefuls of the solution into four spots around the tumour, at the distance about one inch from the slough, and to repeat the injections only in the case of re-elevations of the temperature. In severe cases, it is necessary to inject six or eight syringefuls at a time, to repeat the injections in six or twelve hours, and to go on with injecting once or twice daily (according to circumstances of the case) for about four successive days. The region of the tumour must be covered with a piece of lint soaked in 2 per cent. carbolic solution, over which an india-rubber bag, or Leiter's or Popoff's apparatus, with hot water, must be placed. The author never saw any instance of carbolic poisoning produced by the treatment above. (Dr. J. V. Jarnovsky, of Vasilsursk, Medical Record, Nov. 15, p. 499.)

RHIGOLENE: AN ANÆSTHETIC.—Rhigolene is the crude or impure hydride of amyl, $C_5H_{11}H$, and is the lightest fluid of the petroleum series. The fluid in the crude state has a faint but pleasant odour and a slight taste; it causes no irritation, and when raised into vapour can be inhaled without difficulty. It mixes with anhydrous ether in all proportions. Rhigolene, though not in itself a local anæsthetic, is capable of producing general anæsthesia on administration of its vapour by the lungs. Purified by distillation, it is a colourless and odourless fluid, and is even agreeable to breathe. It causes general anæsthesia with great rapidity, often within the minute, with recovery in two minutes. In my report to the British Association for the Advancement of Science at Exeter in 1869 (Trans., p. 412), I spoke favourably of it for general anæsthetic purposes; but later experiments with it showed me that owing to its insolubility it was dangerous—as dangerous as amylene. I therefore ceased to advocate its introduction for general anæsthesia. Readers who may be interested in this fluid may turn to my Exeter report upon it for some other curious and useful applications of it, of which I will briefly notice three. *For Burns.*—I found that camphor and spermaceti dissolve in rhigolene freely. I therefore made a saturated solution of spermaceti and rhigolene, and then added camphor until that ceased to be dissolved. The solution so formed was applied with cotton-wool to burns. The evaporation of the fluid gave instant relief to pain, and left over the surface a thin layer of spermaceti and camphor, which excluded air and gave an excellent dressing. One drachm of spermaceti and one drachm of camphor will dissolve in two fluid ounces of rhigolene. *For Iodine Disinfection.*—I found that the fluid would take up iodine. I used it, consequently, for making an iodine solution, and employed the solution for various purposes. Applied to the surface of a fetid wound, it leaves the iodine on the surface in finest subdivision. Sprayed into the throat, it is very useful in malignant or fetid ulceration, one or two injections of the spray being quite sufficient to leave a free portion of iodine on the surface. Inhaled as a weak solution, it affords a means of allowing iodine to enter the respiratory tract, a little iodine being always carried over with the vapour. The strength of the iodine solution which I use is five grains of iodine in one fluid ounce of rhigolene. One of Gamgee's excellent absorbent pads treated with half a fluid ounce of this solution becomes in a few moments a most perfect iodine sponge, applicable for a variety of useful purposes. *For Antiseptic Use.*—By shaking a strong solution of ammonia with the rhigolene and then decanting off the water, I obtained an ammoniated solution which acts as an excellent antiseptic, the vapour of which can be inhaled. The same solution charged with camphor is very useful for the preservation, temporarily, of natural history specimens. Dead objects are perfectly preserved by putting them for a short time into a bath of the solution, letting the fluid escape as vapour, and leaving the camphor in the tissues. (Dr. B. W. Richardson, Lancet, Jan. 17, p. 101.)

Sulpho-Carbol, the New Antiseptic.—The antiseptic and antifermentative properties of this compound are remarkable, and it has the advantage over carbolic acid of being soluble in water in all proportions, and of being neither poisonous nor caustic. It is a syrupy, rose-coloured liquid, of a pungent odour, but no-wise disagreeable in solution. It is volatilized in a water-bath, and may be used for fumigation. It was discovered in 1841 by Laurent, and has since then engaged the attention of many chemists. Recently its properties have been investigated by M. F. Vigier, with the assistance and in the laboratory of M. Laborde, and its great antiseptic powers have been duly demonstrated. It may be given internally also, in syrup and water, in doses of from one to five grammes daily. Indeed, being an inoffensive product, its doses may be increased *ad libitum*, which of course is not the case with carbolic or salicylic acids. (M. Pierre Vigier, Medical Times, Nov. 3, p. 668.)

AFFECTIONS OF THE NERVOUS SYSTEM.

Anæsthetic Leprosy of the Leg.—*Nerve Stretching.*—The operation of nerve stretching is of the simplest kind, no dissection is required. Midway between the ischial tuberosity and the trochanter of the femur a vertical incision is made, beginning at the lower edge of the gluteal maximus. The incision should be about 1 to 1½ inches long, and should be made at once through the fascia propria. The forefinger passed under the biceps will, with little practice, at once recognise the sciatic nerve, which should be separated with the finger from its connections, drawn out, and stretched. I invariably jerk the leg off the table, using a force of about 25 to 30 lbs., never more than the latter. I have never found it necessary to ligature a single bleeding-point, sometimes there is scarcely enough blood to moisten the lips of the wound. The wound should be carefully pressed below to extrude any air, and be closely sutured. Our practice is to operate under the spray, and dress with iodoform and gauze. In all recent cases the dressing has been left to the third or fifth day, when the wound has been found nearly or quite healed. Improvement has been most rapid and most marked where most strain has been applied during the operation, and the few cases of non-improvement which have come under my personal observation have been all attributable to insufficient stretching. By the third week the improvement can be gauged, but more may follow. On the other hand it may retrograde. This has not occurred in any case remaining in our leper asylum for treatment. I have, however, seen two patients who returned, stating that about four months after the operation the anæsthesia recurred. On one of these I reoperated with good result. Recurrence I take to be rare. (Arthur Neve, F.R.C.S. Ed., Med. Missionary, Kashmir, Edinburgh Med. Journal, Nov. p. 433.)

Chorea.—*Conium Juice.*—Dr. Sinclair observes, with regard to a case of chorea under his care in the Dundee Royal Infirmary, reported by his late house-surgeon, Dr. D. J. Reid :—"This case was without exception the most aggravated attack of acute chorea it has been my lot to see. The poor boy's sufferings were most painful. Arsenic and bromide of potassium in full doses had been tried before I saw him, but without any effect. It will be observed from the clinical record that although he was so ill as to require the administration of chloroform on the day after admission he immediately improved after four one-drachm doses of conium juice, and he continued to improve steadily under its use. It was not found necessary to resort to the enormous doses recommended by some authors, and derided by others." (Dr. Sinclair, Lancet, Nov. 29.)

Migraine.—*Its Nature and Treatment.*—By migraine is meant a headache accompanied by more or less stomach disturbance, of strict periodicity, and pursuing in each individual a generally constant march, with a beginning and an ending which each sufferer can predict with certainty, and not due to any external or acquired condition. It is one of the most familiar members of the neurotic family, with most of the other members of which it is readily convertible, either in the patient himself or in his relatives. As is the case with all other so-called neuroses, any views in regard to its direct pathogeny are purely speculative, the condition determining the periodic discharge of so much nerve energy in the form of pain, vomiting, visual disturbances, &c., being probably one of diminished control of the higher or inhibitory centres than an increased excitability or lowered resistance of the lower centre which is directly involved. This lowered control power Dr. Allbutt is inclined to regard as the result of want of volume or of capacity of the centre in question, the centre being looked upon in regard to these qualities as an "accumulator." So far as treatment is concerned, no single drug or class of drugs is of general applicability. Guarana administered in full doses at the onset of the fit, croton chloral in repeated doses till 20 grains have been given, are perhaps the most generally useful. Ergot, nitro-glycerine, and amyl, have not been of much service. Perhaps more is to be done by treatment directed to the avoidance or correction of any known exciting causes, than to the "fixed morbid state" which directly determines the outburst on the application of the necessary stimulus. Dr. Allbutt's lecture, of which we have tried to indicate the gist, is a valuable contribution to the literature of the subject. (An abstract is given at p. 132.)

NEURALGIA.—*Osmic Acid.*—A. Eulenburg was led by Neuber's experience in neuralgia with osmic acid, injecting 1 per cent. aqueous solution, to try the same remedy. He found that the injection of the above strength caused no unpleasant symptoms. He selected twelve cases of neuralgia in different cutaneous nerve-districts of the upper and lower extremities, of the head, and body; most of these were fresh and not unusually severe cases. The treatment extended over one to six weeks; the number of injections in individual cases was three to fourteen. The solution used, 1 per cent., gradually became dark-coloured; even that could be used without injury. The amount injected was half a gramme of the solution, exceptionally one gramme. After the injection there was a slight temporary reddening or swelling in the immediate neighbourhood of the injection. The injection was made at the diseased part. Of twelve cases, three were cured (no relapse within two to fourteen weeks); four more or less relieved; five were not benefited. The three cases cured were probably cases of neuritis or perineuritis. Subsequently he used the drug in seventeen other cases; four were cured (two sciatic, one lumbar, one intercostal). (Medical Record, Dec. p. 536.)

Persistent Neuralgia.—Excision of Inferior Maxillary Nerve at the Foramen Ovale.—The patient was a great sufferer from persistent neuralgia related with the inferior maxillary nerve and its mylo-hyoid branch. He could neither talk nor eat with comfort, and his life was made altogether miserable. The patient was etherized; then an incision was made which began an inch above the angle of the jaw and was carried downwards and forwards to the length of an inch in front of it, this cut being in the shade line below the bone, to avoid injury to important parts covered; the integument was pulled upwards upon the jaw and then incised. Ligation of the facial artery is commonly made necessary as a result of this first step, and it was required in the present instance. By stretching the wound with retractors the bone was exposed and a small surface denuded of its periosteum, through which part an opening into the inferior dental canal was quickly effected by the bur of the surgical engine. The nerve was then raised from the canal and severed, the central end being left in the grasp of bulldog forceps. Using the nerve as a guide, the engine bur was carried to the posterior dental foramen, which, like the canal, was enlarged to admit of the passage of a fenestrated instrument through the ramus of the inferior maxilla to the base of the cranium. The hemorrhage was controlled by the ligation of the inferior dental artery, and the use of tannic acid applied in powder to the vascular surfaces of the wound; after which the nerve was severed and exhibited to the class. (Dr. T. E. Garretson, Philadelphia Med. News, Oct. 18, p. 431.)

Resorcin as a Hypnotic.—In paroxysmal colic accompanying cancerous, dysenteric, tuberculous, and other diseases of the intestinal tract, and inability to sleep, resorcin exerts an important action. This is also true of the intense pains of vesical and biliary calculi, which prevent sleep. Resorcin is applied as an anodyne locally in inflammations and injuries, likewise it is employed as an infallible, safe hypnotic. It acts as a dynamic agent on centres of the nerve system. It must suffice at present if we make the statement and give assurance, that when given to patients suffering pain and inability to sleep it is an efficient and safe remedy. In every instance where resorcin is administered as a hypnotic it must be given in toxic doses. (Andeer, Therap. Gazette, Dec.)

Sciatica.—*Osmic Acid.*—I have given osmic acid a trial in eighteen cases, which have resisted all other known methods of treatment which we occasionally resort to as an adjunct to the unaided efforts of the waters, though it is satisfactory to state that only about 25 per cent. of the cases which are admitted here, having previously tried the faculty of the towns from which they are sent, resist every known curative measure, including our baths. To the latter twenty-five per cent. I have directed the subject of my observations. The patients' ages varied from eighteen to sixty-five. In twelve cases I succeeded in giving them absolute relief for a period of three weeks, when I lost sight of them, the patients having left the hospital. The numbers of injections varied from one to four. In six I gave temporary relief. The injections were as many as twelve in one case. It is perhaps instructive to state that though I did not give them permanent relief, they obtained more comfort by its use than even hypodermic injections of morphia. I used a one per cent. solution, injecting deeply over the sciatic nerve, at a point midway between the tuber ischii and trochanter major, three to five minims of the solution. It produced no constitutional effects, but locally at the seat of the puncture the patient invariably complained of a numb feeling, which, however, was transient. In some cases the effect was marvellous, the patient being able after a short time to stand on the affected side, a feat which he had been unable to do for years. I am unable to state or propound any theory of the action of osmic acid. Its effects are undoubtedly local, and one can hardly conceive that it could set up any appreciable amount of local inflammation by its undoubted irritant property, inasmuch as its effects are so rapid. That it is, however, a valuable and fairly successful remedy I think the test of experience will soon establish. (Mr. J. Merces, Lancet, Jan. 10, p. 58.)

Local Application of Intense Cold.—This method of treatment has been tried by the author in a number of severe cases, and the results are said to be very satisfactory. He recommends methyl-chloride as a refrigerating agent, and states that a temperature of —23° C. can be easily obtained by its use. A spray of the fluid is directed to the whole of the painful region, and the skin soon becomes hard and pale. After a short time the tissues are allowed to thaw, and it is then often found that the pain has disappeared. Bullæ sometimes form on the skin as a consequence of the freezing, but they are of no importance, and the operation may be repeated if necessary. Relapses are said to be rare. (M. Debove, Medical Record, Oct. p. 442.)

STATIC ELECTRICITY IN NERVOUS DISEASES.—1. *Neuralgia.* The author used franklinisation in sixty-seven cases of this kind, sixty-one of which were of rheumatic origin, four of traumatic, and two of reflex (twenty-eight cases of sciatica, nineteen of neuralgia of trigeminus, eleven of intercostal neuralgia, &c). In the rheumatic cases, the results were very striking. Even extremely obstinate cases were very often cured after one or two sittings of five to ten minutes' duration; in others, a great relief both in the number and in the intensity of the paroxysms was obtained. In some of the patients the disease returned after a while, but was less pronounced, and speedily yielded to renewed franklinisation. The results were less successful in traumatic and reflex cases, where pain disappeared only for fifteen or twenty minutes after a sitting, to return soon in its former degree. 2. *Rheumatism,* twenty-four cases.—In chronic and subacute forms of muscular as well as articular rheumatism, static electricity acted as effectively and rapidly as in neuralgia; hence, it is preferable here to galvanisation and faradisation. Franklinisation was useful also in acute forms; but the author is as yet unprepared to say whether it stands here superior to galvanic and faradic treatment or not. 3. *Peripheric Palsies,* ten cases (eight of rheumatic origin, and two of traumatic).—In rheumatic cases, a great improvement—amounting almost to a complete recovery—followed after two or three sittings. Sometimes, however, relapses occurred. In traumatic paralysis, faradisation gave better results than franklinisation. 4. *Chorea minor,* one case.—Temporary slight improvement was obtained. 5. *Cephalalgia,* two cases.—There was some improvement. 6. *Neurasthenia,* one case.—There was some improvement. 7. *Spinal Irritation,* two cases.—Both "almost" recovered. 8. *Paralysis Agitans.*—Slight diminution of shaking was produced. 9. *Impotentia Virilis,* two cases.—No improvement followed in one; there was return of the sexual power after four sittings in the other. 10. *Nervous Itch,* one case.—Cured after two sittings of three or four minutes' duration. There was no return. (Dr. Benedictoff, Med. Record, Oct. p. 435.)

AFFECTIONS OF THE CIRCULATORY SYSTEM.

CARDIAC DISEASES.—*Caffeine.*—Caffeine is a cardiac tonic. Large doses, even amounting to as much as two grammes (or half a drachm) a day, should be given in order to obtain the full benefit from its use. Having three cases under my care in which cardiac debility was a very marked symptom, in two of the cases as the result of a recent attack of rheumatic fever, in the third as the result of a long residence in India, with continual ill-health while there, I determined to try caffeine, and have been much pleased with the result. In all three cases the improvement has been most marked, the heart's action being steadied and strengthened, and the vascular tension augmented. In one case a decided diuretic action was noted, and the only ill effect in any case was that on one occasion, a two-grain dose being taken as late as 8 p.m., the patient was kept awake till 3 a.m., apparently by the action of the medicine. I have not found it necessary to give larger doses than two grains three or four times a day, dissolved in water and flavoured with tincture of orange or gentian. (Mr. H. Nelson Hardy, Lancet, Jan. 24.)

Convallaria Majalis.—Its Uses and Effects in Cardiac Diseases.—Labbée (E.) holds that in health the extract of convallaria first stimulates, then paralyses the vagus, probably centrally, thus rendering the heart's action first slower, then quicker, eventually paralysing the cardiac motor centre. It markedly augments vascular tension, but finally diminishes it, he says, like digitalis. Large doses cause salivation, vomiting, and increased alvine evacuations. The respiration is at first stimulated, then depressed. He finds it serviceable:—1. In cardiac neuroses, where it calms palpitation and relieves dyspnœa; intermittent action of the heart sometimes disappears under its use. 2. In organic cardiac lesions, where it acts in the same manner as digitalis, the indications for the use of the two drugs being the same. Like digitalis it is most useful in mitral incompetence, but it may also be given in aortic insufficiency. Labbée says it has the advantage over digitalis of not causing sickness or loss of appetite; and, furthermore, it has no cumulative action. In one case of cardiac dilatation in which its action was compared with that of caffeine, the latter drug was found more efficacious. 3. In cardiac dropsy, where its diuretic effects are well marked.—The drug has been given in typhoid fever, pneumonia, and other ailments, without special benefit. Labbée looks upon the extract as the best form for administration. The infusion of the flowers or fresh leaves, he says, is of but little value, and he attributes the failure of the drug in the hands of Humbert-Mollière and others to the inferior character of the preparation used. (Abstract by Dr. Leech, Med. Chronicle, Nov. p. 181.)

Hazeline as a Hæmostatic Agent.—I have been much impressed by the effect of hazeline in the two following cases. A young lady, aged 13, menstruated for the first time in May last, the discharge continuing for four days. Her health had always been good, but she suffered on several occasions from attacks of bleeding at the nose. She again menstruated and came under my care at the end of July for five weeks. She had free discharge, and at times it was profuse, with clots and pain. I prescribed ergot, gallic and sulphuric acid, and cold applications, &c., without much effect for a week, and then tried half-drachm doses of hazeline every fourth hour. After taking four doses, the discharge ceased, and did not return. I continued the mixture for four days, and then ordered iron. At the expiration of four weeks, she again menstruated. The period only lasted this time for three days. She has now almost completely recovered from the very severe drain on her strength. In my second case, there was a wound of the first joint of the thumb, caused by the breaking of a bottle. The wound was ragged and unhealthy; it had been spouting blood for every three or four days since the accident occurred, a month before the patient came under my care. On taking off the dressing, profuse bleeding took place from the vessel at the bottom of the wound. I washed out the wound with a lotion of hazeline and water in equal parts, and then applied a piece of lint saturated with hazeline, and covered it with oiled silk. On the fourth day, I removed the dressing, and found that the wound was completely healed. (Mr. John S. Gunning, Enniskillen, British Medical Journal, Oct. 11, p. 711.)

Tricuspid Stenosis.—In reviewing the general facts of tricuspid stenosis *ápropos* of a case of his own, M. Chauffard points out that the only two signs in life we are likely to get of its presence are (1) the existence of extreme venous congestion in the neck without a venous pulse, and (2) presystolic and systolic murmur which culminates over the junction of the xiphoid cartilage with the sternum, and which is by this position and its harshness and superficiality to be distinguished from the murmur of mitral stenosis. With regard to the general conditions of tricuspid stenosis, M. Chauffard is in agreement with nearly all authors, viz., that it is almost always found in women, in forty-one cases out of forty-six (Fenwick), in adult life; and accompanied by other endocardial lesions, especially by mitral stenosis. In only half the cases does rheumatism seem to have been coexistent; it has been the result of a slow endocarditis, wide-spread and not vegetative, which has glued the bases of the valves together and made them contract. In only one case does it seem to have been congenital. (M. Chauffard, Practitioner, Dec. p. 448.)

AFFECTIONS OF THE RESPIRATORY SYSTEM.

Bronchitis.—*Pilocarpin.*—In a few instances the drug has been used where the secretion was scanty and difficult to expectorate, and it was thought that a freer secretion would loosen the cough. In no case, however, did it appear really beneficial. The secretion was increased, but the difficulty in coughing and in breathing not lessened; and in two cases such troublesome salivation arose that the patients begged to have no more. The experience of this remedy in bronchitis is, therefore, so far not encouraging. (Dr. S. West, St. Bartholomew's Hosp. Rep., p. 126.)

Catarrh of the Posterior Nares and Naso-Pharynx in Relation to Sore Throat and its Treatment.—In a great number of cases of sore throat the primary source of the mischief is not in the larynx, but in the nose and naso-pharynx. This is more especially the case with that variety known as "clerical sore throat." In these cases the affection of the larynx is undoubtedly secondary in character, and treatment directed solely to it is likely to prove disappointing. The indications for proper treatment are scarcely afforded by the history or symptoms, but by a physical examination of the retro-pharyngeal wall and naso-pharynx. This usually discloses a collection of muco-pus, with a roughened, granular condition of the mucous membrane, and some dilated veins. The mucous membrane is never ulcerated; should this be the case, there is an undoubted syphilitic taint present. The treatment of this complaint consists in the use of the nasal spray, using in the first place a solution of soda for its solvent and cleansing actions, and afterwards a watery solution of tincture of iodine for its alterative effects. At the commencement of treatment each of these sprays ought to be used at least six times daily, on account of the rapidity with which the muco-purulent secretion re-accumulates. In more obstinate cases with grosser lesions, such as granulations of the mucous membrane and dilated vessels, the galvano-cautery gives best results, touching with it in succession each diseased point. (Dr. G. Hunter Mackenzie, Edinburgh Medical Journal, Nov. p. 400.)

Climate in Phthisis.—I never saw any permanently good results grow out of sending the patient to the sunny south, or merely into the country, or to the sea shore, or to sea. Since heat is productive of lassitude, and lassitude is inimical to action and exercise, it stands to reason that the patient should be sent north and not south, or its equivalent, to the highlands and not to the lowlands. Again, going into the country merely is but a slight modification of the evils with which the lung patient is beset at home, to which must be added an exchange of home comfort for all manner of discomfort, that is, for dust, bad food, ennui, want of proper medical attendance, and all sorts of annoyances. Dust is the lung patient's greatest foe, and bad food comes next. And again, the air to which the patient should be treated, as will appear hereafter, must neither be moist nor windy nor condensed, and hence sea air is out of the question for him. To broil him at sea under the equator is as vicious for him as to expose him to the fierce gales of higher latitudes; he cannot endure either. Therefore, if the patient is to be exiled from home, let him be sent into the mountains. The altitude at which he should live must exceed 5,000 feet, to enable him to breathe an air of a proper degree of rarefaction, not to mention any more arguments in favour of going to such a height. There are many more or less reputable resorts for him the world over, but I object to all that are not situated in the high mountains. Let him choose between the Alps, the Pyrenees, the Alleghanies, the White and the Rocky Mountains. For various reasons I object to all the resorts along the Mediterranean. I object also to Goerbersdorf in Silesia, because of numerous faults in its administration which have come to my notice. Taking one consideration with another, I think I can safely recommend Davos-Platz, in the Grisons of Switzerland; there are a number of English works on the place published in London and abroad. But there are many resorts that will do as well, or at which even better results may be achieved, especially in cases where there is a predisposition to congestion; most results as direct issues of a cure depend upon the individuality of the patient. It does seem a little strange that almost every diseased organ should require gentle care and rest, and the lungs when diseased alone sturdy unrest, but this proceeds from the very nature of the trouble,—viz., that the disease is primarily born of inaction and decay, like rust on a neglected ploughshare, which, taken back into the field and pressed into active duty, is, as it were, cured and restored to health. (Mr. Richard Gerner, M.E., Glasgow Medical Journal, Oct. p. 241.)

EMPYEMA.—*Partial Excision of Ribs.*—A case of empyema of nearly 18 months' standing, in which pus had been discharging through a sinus nearly the whole time, was treated by the above method. The operation was done as follows:—An incision five inches long was made in the side of the chest, and parallel to the sixth and seventh ribs. The periosteum of the rib was divided and raised on each side, and three inches of the rib removed. The upper margin of the wound was then raised, and a portion of the sixth rib was removed in like manner. The slight hemorrhage was arrested by torsion, the cavity was washed out with carbolic acid lotion, and a large drainage-tube was inserted. The temperature rose but slightly, and recovery was uninterrupted. The cavity was washed out daily with carbolic acid and tincture of iodine, and the patient left the hospital in four months. (Dr. Fulton, Toronto, Philadelphia Med. News, Sept. 20, p. 329.)

LARYNGISMUS STRIDULUS.—In a clinical lecture on this complication of rickets, the author recommends traction of the tongue during the attack, to prevent closure of the glottis, or sprinkling cold water in the face. In the intervals he gives bromide of potassium, and regards this as almost a specific for these spasmodic attacks. The remedy must be given in rather large doses, four grains morning and evening, gradually increased to eight grains. In one or two days, he claims, the attacks will have wholly ceased to occur. (Prof. Widerhofer, Pract., Jan.)

NIGHT SWEATS OF PHTHISIS.—*Pilocarpin.*—I have recently been testing the action of this drug in many cases of phthisis at the Chest Hospital, Victoria Park. The remedy was administered in the evening in solution by the mouth, commencing with one-twelfth of a grain of the nitrate of pilocarpin. If, after a day or two's trial, this was not found sufficient, the dose was increased to one-sixth of a grain. In many cases the smaller dose was effectual. If a sixth of a grain was not enough, the drug was discontinued, and some other remedy used. The effect in some cases was very striking. The sleep-sweats stopped entirely, and continued absent as long as the medicine was taken. This result was, however, the exception; for, like most of these remedies, pilocarpin seemed to lose effect after a time; but the time varied greatly in different individuals. Idiosyncracy greatly affected the action of the remedy. In healthy persons the administration of one-sixth, and in some of one-twelfth of a grain, produces perspiration in the course of a few minutes; but in night-sweats this initial perspiration is sometimes entirely absent, or so slight as not to be noticed by the patient; in others, slight sweating follows and lasts a few minutes, but the night-sweats are controlled. In others, again, the initial sweating is more abundant, but in them also the night-sweats do not occur. It is the exception in these cases for the ordinary proper sweating to be produced. Salivation was absent, or, if present, so slight as to cause no complaint. My observations result in this conclusion, that although there is no more certain remedy for night-sweats than atropia, still that pilocarpin is a fairly reliable drug, and that it is admissible where atropia is contra-indicated or not tolerated. (Dr. Samuel West, St. Bartholomew's Hospital Reports, p. 125.)

OZÆNA.—There can be no doubt that the most effectual method of treatment consists, in the first place at least, in thorough cleansing of the whole nasal cavity; and although douching and syringing are much used, I do not believe that these can be at all compared with the anterior nasal spray, as used at the London Throat Hospital, either in point of efficacy or safety. While agreeing with those authors who believe that ozæna is often incurable, yet

I am also of opinion that in most cases the fœtor, which is after all the only symptom calling for interference, can be kept in check for an indefinite time by the methodical use of appropriate sprays. According to my own experience, the most satisfactory results are derived from the use of an alkaline and antiseptic spray, immediately followed by one containing as much tincture of iodine as the patient can bear, which usually does not exceed five minims to the ounce. The alkaline spray, of course, washes out all parts of the nasal cavities thoroughly, and leaves a perfectly clean surface for the remedial effects of the iodine, which probably acts in its double capacity of antiseptic and stimulant. Some authorities prefer to apply their remedies as powders, and the most important of these latter are iodoform, boracic acid, and eucalyptus (diluted with starch); while others resort to a gelatine bougie as a vehicle for introducing medicinal agents into the nares. (Dr. P. McBride, p. 161.)

PAPILLOMA OF THE LARYNX.—*Chromic Acid.*—Dr. Jarvis, in the Boston Med. Journal, U.S., recommends chromic trioxide as a local application to these growths, as being safe, reliable, effectual, and self-limited in its action; its use is not necessarily attended with pain or spasm. It is best applied by means of a special instrument, consisting of a tube provided with a trigger and a spring, the force of which can be accurately regulated, in order to limit the action of the caustic to the growth to be removed, and to surprise the larynx. Since, according to Mackenzie, 67 per cent. of the tumours of the larynx are papillomata, and Cohen has found forty-eight out of sixty-six tumours of this character, the field of action open to this agent appears to be an extensive one. (Dr. Jarvis, Medical Times, Nov. 29, p. 757.)

PARACENTESIS AND ASPIRATION.—*New Aspirator, and a Knife especially adapted for Incision of the Chest.*—An illustration will be found at page 262 of a most ingenious instrument, which may be called an "improved antiseptic trocar." It is very suitable for the various kinds of tapping and exploring operations of the chest, necessary in cases of empyema and pleuritic effusion. It is made in several convenient sizes by Messrs. Arnold and Sons, of West Smithfield, E.C. This instrument, together with the knife, also made by Messrs. Arnold, are the inventions of Dr. Cousins, of Portsmouth, who says:—"The admission of air is not merely prevented by the siphon-action maintaining a continuous flow, but the whole instrument, with the exception of the penetrating tube, is enclosed in an air-tight india-rubber case, within which it can be opened and shut by a simple joint-movement. The simple construction of the trocar will be readily understood by a reference to the engraving." (Dr. J. Ward Cousins, p. 260.)

Pleuritic Effusions.—*Diagnosis by the Aspirator.*—In effusions into the pleura, it is often difficult to determine whether the case is one of simple pleuritic effusion or empyema. A case came before my notice only a short time since, in a lad who had had some consolidation of the base of the right lung; from this he had recovered; but there was left a dulness over the whole of the lower part of the same side of the chest, with persistent high evening temperature, and it was a question whether there was a secretion of pus in the cavity or not. The needle of a fine aspirator was introduced into the lower part of the chest, and a small quantity of serum withdrawn. Thus the question was solved, and in a short time he was sent to the seaside; the effusion was absorbed, and the dulness completely disappeared. (Mr. F. B. Jessett, British Medical Journal, Nov. 1, p. 852.)

Tonsillitis.—*Bicarbonate of Soda.*—In the early stages of tonsillitis, before the pain of swallowing is excessive, bicarbonate of soda will arrest the inflammation. The index finger, being moistened, is charged with as thick a layer of the powder as will adhere to it, and is then introduced into the mouth and rubbed thoroughly over the inflamed tonsil. Five or six applications are thus made at intervals of five minutes. At the end of this time, the patient will find the act of swallowing nearly painless. When thus employed in the early stages, bicarbonate of soda will cut short the disease, and later will promote resolution. In hypertrophy of the tonsils, two or three applications of the powder each day will reduce the size of the glands very considerably in one or two months. (Dr. G. Partagas, British Medical Journal, Jan. 3, p. 11.)

Tubercular Infection.—The prophylactic measures against transmission of tuberculosis require that rooms inhabited by tuberculous patients should be disinfected after their death. The linen should be plunged into boiling water; curtains and hangings should be exposed to steam at boiling heat; sulphur (thirty grammes to every cubic mètre) should be burned in the room; the windows and doors should be kept shut during twenty-four hours, and afterwards opened for several days. The clothes should be disinfected in the same way as the hangings. Sputa are the most dangerous media of transmission. Everything in contact with them should be carefully disinfected. MM. Malassez and Vignal have demonstrated that sputa which have fallen to the ground retain their virulence a hundred days. When dried in the air, they may be absorbed in the form of dust. M. Vallin recommends the custom of using spittoons containing glycerine mixed with an antiseptic fluid, and points out that the danger of transmission is greater in large establishments, in those localities where tuberculous patients congregate on account of the climate; they stand about on the corridors, and remain in the reception-rooms, where they discharge their sputa on the floor. The isolation of tuberculous patients, though desirable, is impossible; but hospitals might be provided with separate wards. All tuberculous people should sleep apart. Infringement of this rule is dangerous, and still more so if the person whom it affects be weakly, or recovering from measles. The air in the sleeping-rooms of tuberculous patients should be constantly refreshed by orifices in the ceiling. Buccal and pharyngeal tuberculosis is most capable of transmission. (Editor of British Medical Journal, Dec. 6, p. 1148.)

TUBERCULOSIS.—*Iodoform.*—The action of iodoform on the bacilli in the sputum is a point to which I have given special attention; and many of my cases appear to show that the bacilli diminish in number, and disappear from the sputum, under the influence of this drug. In several of the cases, all active symptoms had subsided, and expectoration ceased, so that no sputum could be obtained for examination. The following case is the most striking and satisfactory one in its results. The patient was a female, aged 39. Her husband died of consumption two years ago; a son was now ill with tubercular phthisis (sputum containing bacilli). She formerly weighed 8st. 13lb.; her present weight was 6st. 13lb. She had had cough for five months; the sputum contained numerous typical bacilli. She had hectic temperature; highest, 101°. There was dulness and crepitation at the left apex. She commenced iodoform on September 3rd, 1883, one grain every four hours, increased gradually up to five grains on September 22nd. Steady improvement ensued, and on October 16th she had gained strength; no crepitation could be heard, there was little expectoration, and the temperature was normal. On November 27th, the weight was 8 stone, and her general health good. The iodoform was then discontinued. On December 11th, her weight was 8st. 4lb. No expectoration could be obtained, as she had long ceased to expectorate, and she considered herself quite well. There was no dulness at the apex of the lung, and no other evidence of disease. Another case was as follows. A male patient, aged 29, had had cough for five years, and hæmoptysis and wasting for three weeks; his weight was 11st. 2lb. on March 28th, 1883. There were evidences of disease at the apex of the right lung. Temperature, 98°. His sputum contained numerous tuberculous bacilli. He commenced iodoform on April 10th, one grain every four hours. On April 23rd, there was little cough and slight expectoration, the latter containing only a very few bacilli. The iodoform was increased to two grains, and was continued till June 4th. The weight had steadily increased up to 12st. 3lb. on June 26th, when the patient appeared to be well, and had no cough or expectoration, although there was still some dulness, and coarse breath-sounds could be heard at the right apex. A third case was that of William M., aged 34, who, after fourteen weeks' cough, had lost two stone in weight; he had pneumothorax at the right base, and dulness at both supraspinous fossæ, with pyrexia, and copious bronchial sputum containing tuberculous bacilli. On July 10th, his weight had increased from 8st. to 9st. 3lb., without clothing, and there was no expectoration. On September 3rd, his weight was 11st. 1lb., with clothing, and his general health had in everyway improved under three-grain doses of iodoform, thrice daily. It is scarcely necessary to remark that these are selected cases; but they do appear to justify the inference that iodoform may have a deleterious influence on the bacillus of tubercle, and that its utility in phthisis is due to its germicide action on the bacilli. I admit that, in many of my cases, no diminution in the number of bacilli has been observed, and sometimes no improvement in the condition of the patient; but these facts do not invalidate the results of cases similar to those above given. (Dr. R. Shingleton Smith, Bristol, British Medical Journal, Nov. 8, p. 907.)

AFFECTIONS OF THE DIGESTIVE SYSTEM.

Acute Yellow Atrophy of the Liver.—This affection is so rare in children, that every case deserves to be carefully studied. Dr. Greves, having met with a typical case in an infant of twenty months, has taken the opportunity to pass in review the symptoms of the disease as seen in children, and to offer some general remarks on the nature of the affection. There is nothing in his case that calls for special notice; the child was ill for some days, and under observation before any symptoms of a serious nature made their appearance. The liver was at the commencement enlarged and not tender; later on, when it began to get smaller, it became very tender. Examination of the liver after hardening showed a marked increase in the connective tissue, especially around the portal vessels; a large number of free oil globules also were present between the cells. In many places all trace of liver structure had disappeared, and the small bile ducts appeared to be choked with epithelium which had undergone fatty degeneration. The course of the disease he divides into two stages: during the first of these there is gastric catarrh with enlargement of the liver; the symptoms in the later stage may be grouped under the head of nervous, including headache, drowsiness, rigors, convulsions, delirium, and coma. Hemorrhages from the mucous surfaces are common, the pulse and temperature often remain normal or subnormal until late in the disease, the liver decreases in size and becomes very tender vomiting is almost constant, and the urine is acid, the urea and phosphates being greatly diminished, and albumen, leucin, and tyrosin frequently present. As to the pathology of the disease, the following are the considerations which he puts forward in support of the theory that it is a general disorder. The epithelium of all the glands in the body shows some parenchymatous degeneration, and the muscles of the heart and some of the voluntary muscles are in a similar state. The resemblance of the disease both to yellow fever and to phosphorus poisoning supports the idea of its being not a local disease. The almost absolute identity with some cases of icterus gravis suggests the notion of some general blood-poison, and the discovery of micro-organisms in the liver and in the blood during life points in the same direction. (Dr. Hyla Greves, Liverpool, Practitioner, Dec. p. 463.)

Artificial Anus Treated by Resection of the Small Intestine.—In an exhaustive paper (St. Thomas's Hospital Reports), which includes the narrative of a brilliant case occurring in his own practice, Mr. Makins reviews the whole of the modern work in this department of surgery. We purposely avoid making any ordinary abstract of a communication of such importance, contenting ourselves with the following brief notice, which will suffice to direct the attention of practical surgeons to this most valuable contribution to the surgical literature of the digestive tract. The patient, whose case forms, as it were, the text of the paper, was a male aged 21 years, who had been operated upon for a strangulated right inguinal hernia. For five days after the performance of herniotomy, symptoms of obstruction continued, followed at the end of that time by the spontaneous formation of an artificial anus, and the escape of intestinal contents from the wound. After a few days the artificial opening became blocked, and nothing escaped from the wound, but a daily motion was passed *per anum.* The abdomen, however, became distended and painful, and it was thought desirable to explore the region of the wound, which having been done, the escape from the artificial opening was again established. Gradual improvement followed, and an attempt was made to close the opening by paring the edges of the gut and bringing them together; this, however, proved unsuccessful. In the course of the following fortnight, there being no proper action of the bowels, the intestinal contents all escaping by the wound, the patient became increasingly pale and emaciated, and there was clearly no hope of cure except by further operation. The artificial anus at this time was circular in shape, and measured two inches in diameter. The gut was firmly attached, and the finger could be readily introduced, passing, however, in an upward direction only. Two days before the second operation, feeding by the mouth was suspended, and the administration of nutrient enemata begun. The upper intestine, the only portion which at the time could be found, was frequently irrigated with salicylic lotion. The operation was begun by a vertical incision extending unequally above and below the wound. The upper end of the gut was dissected free from its adhesions, and then the lower end, contracted to the size of an ordinary pencil, was found. The gut was then clamped (with a new forceps described in the paper), the two ends drawn forward, and the abdominal cavity closed with sponges. One inch from the upper, and two and a half inches from the lower gut, were now excised, with a corresponding wedge of the mesentery. The cut surfaces then nearly corresponded in size. The edges of the mesentery were brought together, and then the suturing of the gut (for a detailed description of which reference must be made to the original paper) was proceeded with. This part of the operation occupied three-quarters of an hour, and over fifty stitches were used. Only the upper and lower parts of the abdominal wound could be brought together, and so the intestine was left exposed at the bottom of the opening. Ten days after the operation the patient was convalescent, and on the 25th day was taking ordinary food. Two months later he was seen, and appeared to be in perfect health, but presented a considerable bulging in the right inguinal region. Mr. Makins gives the following reasons for the method of operation followed:—(1) The opening in the intestine was very high up, as evidenced by the rapid escape of solid and fluid nourishment, and the very considerable emaciation consequent upon it. (2) The entire intestinal contents escaped by the abnormal opening, the discharge was constant, uncontrollable, and the cause of very great local irritation. (3) A plastic operation had already been tried and had failed. (4) The opening of the lower end of the intestine could not be found, an insuperable objection to the application of Dupuytren's enterotome. The method of provisional closure of the abdomen by sponges, the clamp used for provisional closure of the intestine, and the method of stitching, are all dealt with in detail. The author has also collected all the recorded cases of intestinal resection for artificial anus, which are appended to the paper in tabular form. It appears from these statistics that, up to the present time, the number of cases being nearly equal, the use of Dupuytren's enterotome is attended by a much less mortality (7·3 per cent.) than is resection of the gut (38·4 per cent.). But when the percentage of failures is ascertained, as would be expected, the results are much more favourable in the case of the thorough operation. In the resection cases the failures were 7·6 per cent., while in the enterotome cases they amounted to 21·9 per cent. Mr. Makins very properly urges that with a more extended experience of the resection method, and more reliable means for protecting the peritoneal cavity from septic or fæcal injury, the results of the operation will greatly improve. It is also probable, he says, that many of the enterotome cases have not been published. In four of the fatal cases after resection, death was due to stenosis of the gut, the result of the operation. (Eds. *Retrospect.*)

CHOLECYSTOTOMY.—In abdominal surgery, where, during late years quite phenomenal advances have been made, not only in the range of operative interference, but also in the improvement of mortality tables, perhaps no operative procedure has so rapidly and so justly grown in favour as that, which under the name of Cholecystotomy is applicable to all obstructive diseases of the gall-bladder and its ducts. In a very long and exhaustive paper, in which all possible forms of obstruction in the biliary passages are fully dealt with, under the title of Cholecystotomy, Messrs. Musser and Keen (in the American Journal of Medical Science for October) have tabulated, with all necessary detail, every published case in which the operation has been performed, up to the year 1884. The total number of cases so tabulated is thirty-five, including twelve cases of biliary obstruction from impacted calculus in either the cystic or common duct, fifteen cases in which the cause of obstruction is not stated (probably cases of impacted stone), one case of cancer, one of syphilis, and one of "gastro-intestinal catarrh." The total number of deaths over the whole series is ten, from which number a case of sarcoma of the kidney occurring in Gross's practice, and in which cholecystotomy was only an incident, may be fairly deducted. In the twelve known cases of obstruction by stone only one proved fatal. The existence of jaundice at the time of operation seemed to largely increase the risk of a fatal result, several of the unsuccessful cases being reported as dying by hemorrhage, attributed to the "cholehæmic" condition. The authors publish, with the paper, two remarkable cases of their own, one of which, a case of "gastro-duodenal catarrh," proved fatal. Mr. Keen operated, in both cases, by a long oblique-transverse incision parallel to the right costal margin, which permitted the extrusion of the intestines and free manipulation of the surrounding organs. Mr. Keen's method, which seems to involve an unnecessarily long incision, and much disturbance of the adjacent parts, is the only procedure described in the paper, no mention being made of the vertical incision over the site of the gall-bladder, as practised by some English operators. The authors mention a new surface marking for the gall-bladder, first described by Professor Janeway, who states that the viscus is situated under the free border of the ribs at a point where it is crossed by a line drawn from the point of the shoulder to the symphysis pubis. The physical signs and differential diagnosis of distended gall-bladder are written upon at great length, but nothing of importance is added to general knowledge on these points. In discussing the various methods of operating, Mr. Keen expresses a preference for the oblique incision above-mentioned, and then proceeds to examine the different ways of treating the gall-bladder after its incision, and the removal of the obstructing body. At least four different methods of dealing with the gall-bladder have been followed:—(1) The formation of a biliary fistula by attaching the opening in the bladder to the lips of the wound in the abdominal wall. This procedure is apparently the one most commonly adopted. (2) Closing the opening in the bladder by a continuous suture without attachment to the abdominal parietes. (3) Ligature of the cystic duct, and removal of the bladder. This was introduced by Langenbeck, as a sure means of preventing the subsequent formation of more calculi, and, according to Mr. Lawson Tait, has been done in six cases with three deaths. (4) By opening the small intestine at the highest point below the duodenum and attaching the margins of the opening in the gall-bladder to the edges of the opening in the bowel. Mr. Keen prefers the first-mentioned method, and expresses himself strongly in favour of the use of strict Listerism during every stage of the operations. (Eds. *Retrospect.*)

Chronic Diarrhœa.—*Voluminous Enemata of Nitrate of Silver.*—Dr. Mackenzie stated that extended experience had strengthened his belief in the value of large enemata of nitrate of silver in the treatment of cases of chronic dysentery or dysenteric diarrhœa. The mode of procedure he adopted was as follows. The quantity of nitrate of silver to be used was dissolved in three pints of tepid water in a Leiter's irrigating funnel, which was connected by india-rubber tubing with an œsophageal tube with lateral openings. The patient was brought to the edge of the bed, and made to lie on his left side, with his hips well raised by a hard pillow. The terminal tube, well oiled, was passed about eight or ten inches into the rectum, and the fluid allowed to force its way into the bowel by gravitation. The injection rarely caused much pain, and often none. It usually promptly returned; but, when long retained, it was advisable to inject chloride of sodium, to prevent absorption of the silver-salt. Various strengths had been used, from thirty to ninety grains to three pints of water; but usually one drachm of nitrate of silver was employed. The treatment was based on the view that, whatever the nature of dysentery, whether constitutional or local, in the first instance, the later effects were due to inflammation or ulceration of the colon, which was most effectually treated, as similar conditions elsewhere, by topical measures. Sometimes one, sometimes two, injections were required, and in some cases numerous injections were necessary; but in all the cases thus treated, many of which had been unsuccessfully treated in other ways previously, the disease had been cured. In most cases other treatment was suspended, but in some, Dover's powder or perchloride of iron, which had been previously administered, was continued or subsequently prescribed. (Dr. Stephen Mackenzie, British Med. Journal, Nov. 22, p. 1015.)

CONCRETIONS IN THE VERMIFORM APPENDIX AND CÆCUM.—*Subperitoneal Operation.*—During a discussion at the Clinical Society, on October 10, which had arisen upon a fatal case of perityphlitis, read by Dr. D. W. Finlay, Dr. Mahomed said he had been lately considering the subject of recurrence of perityphlitis, and had been proposing to himself to perform an operation for removal of concretions from the cæcum by means of abdominal section. He had designed what he considered to be a suitable operation, by practice in the postmortem room. He found that by means of an incision, as for ligature of the external iliac artery, the vermiform appendix could be easily reached, in some cases without opening the peritoneal cavity. In conjunction, with Mr. C. J. Symonds, he had successfully removed a calculus from the vermiform appendix of a patient suffering from recurrent attacks of perityphlitis. He thought that a certain amount of induration was a necessary feature in such a case, to act as a guide during the operation. He quoted Professor Austin Flint's observation of the loss of hepatic dulness in cases of cæcal perforation. Such a sign, if true, was a useful point in diagnosis. In reply to the President, he said that the calculus which he had removed was mainly phosphatic. (Dr. Mahomed (the late), Medical Times, Oct. 18, p. 563.)

CONSTIPATION, HEMORRHOIDS, ETC.—*Cascara Sagrada.*—In March, 1883, I published a short notice of the use of cascara sagrada in constipation, showing its use in almost all cases of constipation, particularly those dependent on defective, perverted, or excessive action of the liver, combined with indigestion. Eighteen months further use, in several hundred cases, has fully satisfied me of the value of this therapeutic agent, and its right to a prominent position as a peculiarly suitable remedy in most cases of constipation. I have also been much pleased with its efficacy in the treatment of hemorrhoids. By its action upon the portal system, its use often relieves the pain and congestion in those patients who decline surgical treatment. In several cases of hemorrhoids following delivery, the use of cascara sagrada for a few days rapidly produced a cure. Combined with glycerine, I find children take it readily; and, as it produces full easy stools, without nausea, tormina, or tenesmus, it excels castor-oil, senna, and other laxatives, as, after its use, the constipation is cured, and not increased. I use the fluid extract, prepared by Parke, Davis, and

Co., of Detroit, in doses, for adults, of from twenty to thirty minims three times a day in sweetened water; and my further observations lead me to think that the best time for administration is half an hour before meals. I feel confident that, after a trial of its virtues, cascara sagrada will find many new friends in the profession. (Mr. J. Fletcher Horne, F.R.C.S.Ed., Barnsley, British Med. Journal, Oct. 4, p. 654.)

DIGESTION OF FATTY FOODS.—The fine subdivision of fatty food is of great importance in regard to its digestion. The fat of hot mutton is indigestible because it cannot be pulverised, whilst cold fat can. The more minutely we can subdivide the fat, the more easily it is digested. Many years ago Professor Hugo Kronecker asked :—"How should butter be spread in a sandwich? Should the whole of it be put on one slice of bread and the other slice of bread simply put over the top of it, or should the pat of butter be divided into halves and one of them spread on each piece of bread?" He answered the question thus:—"The butter should be divided into halves, and one spread on each piece of bread, because in this way the butter is more minutely subdivided, and thus not only gives a more agreeable taste, but it is more readily digested." (Dr. T. Lauder Brunton, Lancet, Feb. 7, p. 239.)

FÆCAL VOMITING WITHOUT MECHANICAL OBSTRUCTION OF THE INTESTINES.—Dr. Percy Kidd writes:—"The question of 'ileus paralyticus' is one that does not receive much attention in most text-books of medicine. The doctrine implied in this term asserts that there exists a form of ileus which has its origin in a paralytic condition of the intestine. This general statement would probably be accepted by most people; but when we come to analyse more closely the cases that have been described as coming under this head, we find that they vary in important particulars. Some were complicated with peritonitis or some inflammatory affection of the intestine, others were associated with ulceration of various sorts or with malignant disease. There is also an important group in which the ileus was directly connected with a previous intestinal catarrh of unusual severity. Lastly, there remain a certain number of cases in which no definite morbid changes were found after death. It was formerly assumed in these cases, as well as in mechanical obstruction, that the stercoraceous vomiting is due to a reversed peristaltic contraction. This, however, is now generally admitted to be a mistake. Given an obstruction at any point of the intestine, contractions of the gut above must drive its contents in the direction of least resistance. The intestinal contents gradually tend to regurgitate into the stomach, and are then vomited. If the intestine is paralysed in a part of its course, the result is practically more or less obstruction at this point. Whether the obstruction is permanent or not depends largely, as Rokitansky says, on the length of intestine paralysed. If a large tract be so affected, the intestinal contents accumulate and their passage is hindered. When, on the other hand, the portion of gut paralysed is small, the muscular contractions of the healthy intestine above may be sufficient to overcome the passive obstruction in the paralysed part." Dr. Kidd then narrates a case of a man, who was in the Brompton Hospital under his care, suffering from cardiac dyspnœa and intercurrent acute rheumatism, and who, on a certain day, began to vomit after hi. meals, and continued to do so off and on for the next two dayst On the third day distinctly fæcal vomiting set in, and recurred as frequent intervals during the next forty-eight hours, at the end of which time he died. The bowels ceased to act, and no lump could be felt in the abdomen. There was never any tenderness or pain in the abdomen. At the autopsy, no change in the peritoneum or intestines was found, except that the colon was empty and collapsed, while the small intestines were distended with fluid contents. (Dr. P. Kidd, St. Bartholomew's Hos. Rep., p. 189).

HERNIA.—*Aspiration.*—The French surgeons have practised with good results aspiration in cases of strangulated hernia, and in our own country cases have been reported by Mr. Jessop, of Leeds, and others. The cases in which it appears that such a course might be adopted are those in which there is a collection of fluid in the sac which prevents the surgeon from being able to use direct pressure on the strangulated gut, and cases where there is a collection of flatus in the gut itself, which increases its calibre and prevents its return. In such cases as these, it is not difficult to see that great good might result by aspiration; and if, after removing the fluid in the sac, or the flatus from the gut, we fail to be able to return the hernia, I do not think the patient is placed in any worse position for operation than before. (Mr. F. B. Jessett, British Medical Journal, Nov. 1, p. 853.)

Radical Cure of Hernia by Operation.—In a case of strangulated hernia, the sac being opened, the stricture was found high up, just about the internal ring, a double coil of intestine being below it, the one coil pressing against the other, preventing reduction. The stricture being divided, the bowel was returned, and then a sac as large as the palms of two hands, with a considerable amount of omentum, bound together by old adhesions, was removed along with the testicle, which was completely atrophied by long pressure. The operation was performed with strict antiseptic precautions, and catgut-drainage was used. The cut peritoneal edges were brought together by catgut-sutures, the pillars of the ring by sutures more superficial, and the skin and cellular tissue by quilled sutures. When seen on March 6th at the hospital, where he came for inspection, the patient had on a truss, as recommended. The wound was completely healed, and there was no return of the hernia. The hernia, it may be mentioned, was of eighteen years' standing. There can be little doubt that, when operations for hernia go wrong, the cause, in a majority of the cases, is inflammation, beginning in the sac, and spreading thence to the general peritoneum. When the sac is removed, this source of danger is no longer present, and we now know that mere division of the peritoneum is not essentially a very dangerous procedure. (Dr. Rabagliati, Bradford Infirmary, British Med. Journal, Nov. 15, p. 962.)

LAPAROTOMY.—*Prevention of Hernia after.*—Finding that he had several cases of hernia in the site of an ovariotomy wound, Hagen-Torn set himself to discover, if possible, some mode of preventing such an occurrence. In one of his cases in which the incision being slightly curved had partly occupied the linea alba, and partly encroached on the rectus muscle, he found that a hernia protruded only through that portion of the cicatrix which occupied the site of the linea alba, whilst the other part remained firm. In four subsequent cases he has avoided the exact middle line and cut through the fibres of the rectus, without any disadvantage either during the operation from bleeding, or afterwards from delayed healing. In fact, the cicatrices seemed much firmer, and so far resisted all attempts at hernial protrusions on the part of the intestines. Hagen-Torn, whilst readily admitting that his experience is so far neither large enough nor sufficiently long to enable him to solve the question, commends the problem to other operators, whom he requests to aid him in its solution. (Practitioner, Jan. p. 62.)

LIVER AFFECTIONS.—*Use of the Aspirator.*—There is, perhaps, no organ in the body which is so subject to abscesses and hydatid cysts as the liver; and, in these cases, the aspirator can be introduced, the abscess or hydatid emptied, and the patient, in all probability, cured; at any rate, he is put in a very much better position than he could possibly be by any other mode of treatment. Before the aspirator was invented, in cases of abscess of the liver, we were obliged to wait until there was adhesive inflammation, causing the peritoneum covering the abscess to adhere to the parietal peritoneum, before the surgeon could venture to open the abscess either by the lancet or by the trocar and cannula. Abscesses have often emptied through into the peritoneal cavity, with the result of the death of the patient; or they may have burst into some portion of the intestine; and so emptied themselves, in which case the patient usually recovered; they may perforate the diaphragm, and burst into the lung, the pus being expectorated, and here again many patients have recovered. While, however, the abscess was eating its way into these organs, the patient's strength often failed, and he died. The introduction of the aspirator has happily been the means of our saving many poor sufferers from months of agonising pain, and also very many have been restored to health by its early application. I think it cannot be too forcibly impressed upon every physician or surgeon, that, if a patient present himself who has a circumscribed hard swelling in the liver, the nature of which is doubtful, it should at once be punctured with the aspiration-needle; and if it should turn out to be an abscess or hydatid cyst, by means of the pneumatic aspirator the cavity can be emptied. Again, I would go further and say that, if the patient present any symptoms of hepatic abscess, and if there be any one tender spot traceable over the liver, the surgeon is quite justified in puncturing the liver at the tender spot, with a view of discovering an abscess. (Mr. F. B. Jessett, British Medical Journal, Nov. 1, p. 852.)

MALT-EXTRACTS AS FOOD.—By admixture with farinaceous food before being eaten, or by being taken practically simultaneously with such food, or before the stomach has become distinctly acid in the digestive act, malt-extracts have been found highly useful in the conversion of starch into grape-sugar. But it is not with this *diastasic* value of malt-extracts the present paper is engaged, but rather with their value as food *per se.* In the malting process the starch of the grain is more or less converted into grape-sugar; probably some is converted into maltose, while some is less completely acted upon, but is put forward some way towards grape-sugar. In addition, however, to this amyloid metamorphosis, the albuminoids of the grain, and the mineral salts thereof, are retained in a soluble and highly digestible form in malt-extracts. As a consequence, malt-extracts form a most useful food where the digestion is gravely impaired—whether in infants or in adults. They constitute, indeed, a food of a highly nutritious character in small bulk, and therefore available when the stomach resents the presence of any bulk of food. With many patients the malt-extract is relished; but unfortunately other stomachs rebel against it, but these last are a minority in my experience. It is not, however, in such desperate cases only as the above that malt-extracts as food are of avail to us. In many cases where the digestive powers are very feeble, and where —to use their own expressive language—the patient complains, "I cannot eat enough of food to make me strong, and if I could I could not digest it," malt-extract as a food requiring a minimum of the digestive act is very useful. It can either be taken alone or added to some warm milk. In such form it can be taken an hour, or an hour and a half, after a meal, in many cases with advantage. Especially when some food is required in the course of the night is this admixture of milk and malt-extract of service.

(It can be prepared at bedtime, and kept near the bed in a hot-water jug—the lid preventing any taint of the room—and be kept warm under a cosey.) Not only are these malt-extracts foods of high value in certain cases, but other foods prepared by the malting process are useful. One of these is the well-known Mellins's food for infants, a most palatable preparation. Another is Liebig's malted food extract, not nearly so toothsome. Doubtless there are many more, but these will serve to illustrate my meaning. Such foods can be added to milk with great advantage in many dyspeptic conditions. Though not quite appertaining to the present paper, it may not be out of place to allude here to the many prepared foods for infants now sold, and which are equally good for dyspeptics. They consist of flour which has been subjected to a high temperature. That is the main fact to remember. In its solubility in the digestive act there is all the world of difference betwixt raw uncooked flour, and flour which has been previously cooked, as prepared food, or baked flour. Such cereal matter can be added to milk, to beef tea, or made into puddings, with the greatest advantage. Farinaceous matters of this "baked" flour order are especially indicated where the digestion of starch is feeble, whether malt-extracts be used therewith or not. By the combination of the two, excellent results can be attained in cases of grave indigestion. (Dr. J. Milner Fothergill, Practitioner, Nov. p. 340.)

STRICTURE OF THE ŒSOPHAGUS.—*Gastrostomy.*—It is a most difficult matter to decide whether the obstruction be of a malignant or fibrous nature; in its earliest manifestations, it is almost impossible. In several cases lately operated on, as reported in the journals, where the clinical features pointed to malignancy, the post mortem examination revealed them to be simple fibrous stricture, and vice versâ. I believe cases of simple fibrous stricture, without any history of previous injury, are of more frequent occurrence than is generally supposed; the wasted, worn aspect produced by inanition gives the patient a cachectic look, and thus inclines one to the opinion that the affection is malignant. When the obstruction has existed for a considerable period—say from nine to twelve months—and has evenly, almost imperceptibly, increased, and when there are no physical signs of malignancy present, the case is more than likely one of simple fibrous stricture. On the other hand, although all the physical signs of malignancy be absent, if the dysphagia suddenly manifests itself in a marked degree, and after this the patient rapidly loses flesh, the case is almost sure to be one of malignant stricture. When we see a patient in danger of death from persistent obstruction to the passage of food into his stomach, we will agree that it is desirable an effort should be made to establish an artificial opening through which it could be administered.

The two ways of accomplishing this end are œsophagostomy and gastrostomy. Notwithstanding the able advocacy for the first of these methods by Mr. Reeves, the great majority of experienced surgeons are against it, on the grounds that it is a more difficult and dangerous operation than gastrostomy, as well as from the fact that it is not applicable in most malignant cases, where the disease is usually found at the cardiac end of the œsophagus. The other more usual and safer method of relieving this state is gastrostomy. In cases where the obstruction is almost complete, and where in non-malignant cases bougies cannot be passed, and before the patient becomes too much exhausted and the digestive functions vitiated, the surgeon is fully justified in urging the operation. (Mr. John Fagan, p. 267.)

Cancerous Stricture of the Œsophagus.—Use of Railway Catheters.—Since 1881, when Krishaber first called attention to the treatment of œsophageal stricture by the constant retention of a catheter in the gullet, a considerable amount of experience of this alternative procedure has been accumulated, notably in this country by Mr. Durham and Mr. Croft. Mr. James Berry makes some valuable suggestions in regard to œsophageal catheterism, with a view to increase the range of applicability, and to obviate some of the disadvantages which have hitherto belonged to this procedure. Mr. Berry strongly advocates, in all cases of malignant disease, the use of dilating instruments. In cases of a moderate degree of narrowing, the periodic passage of an ordinary bougie by the surgeon, and afterwards by the patient himself. In the later stages, and when practically complete obstruction exists, a small cat-gut guide should be passed (this can almost invariably be readily done), and then upon this a flexible tube with a terminal opening ("railway catheter") is introduced. Considerable dilatation is in this way effected, so that ultimately ordinary india-rubber tubes of considerable size are used. The instruments appear to be brought out through the mouth, and, with the exception of changes necessitated for cleaning or on account of discomfort, are left permanently in the œsophagus, the upper end being secured by tapes. The cat-gut guide should always be used when passing tubes of whatever size. (Mr. James Berry, p. 271.)

Ulcer of the Stomach.—Although the pathology of simple ulcer of the stomach is still obscure, its successful treatment by an exclusive milk diet has been long known; but the *régime* is not infallible; hence the treatment prescribed by M. Debove, which has brought about unhoped-for cures, is worthy of attention. He points out certain risks attending the ordinary milk treatment: the ingestion of so much fluid, viz., three or four litres (five to seven pints) of milk, in the twenty-four hours, into a stomach with atonic mucous membrane, is apt to produce almost fatal dilatation, and the stretching of the ulcer to provoke hemorrhage and perforation. Indeed, all excessive dilatation of the stomach is dangerous, while contraction is favourable. M. Bouchard for a long time in this disease has given a dry diet, consisting of finely-divided nutritious food—such as meat powders—with not more than 400 grammes (nearly three-quarters of a pint) of pure water, during the twenty-four hours, and under this regimen he has seen the morbid dilatation of the stomach diminish or disappear. M. Debove's plan is as follows:—The stomach is first carefully washed out, but the operation is to be instantly stopped if the returning liquid is tinged with blood. Then the patient is to take three meals daily, each consisting of meat powder twenty-five grammes, bicarb. of soda ten grammes, and, as the mixture is not very palatable, it is permissible to introduce it into the stomach by a syphon. To this dry food, which represents 300 grammes (about ten ounces) of flesh and 30 grammes (about one ounce) of sod. bicarb. per diem, one litre (nearly a quart) of milk is added, which is to be drunk in small quantities at a time. M. Debove's object is to annul the action of the gastric juice, and thus stop digestion and favour the healing of the ulcer. The albuminoids are not converted into peptones in the stomach, and their alkaline reaction is very favourable to their digestion in the intestine. Perhaps, too, the soda is *directly* beneficial to the ulcer. Two severe cases of gastric ulcer, accompanied with very painful crises, by hemorrhages, and by great emaciation, which had resisted all treatment, were quickly cured by the above treatment of M. Debove. [Debove's powdered meat is now readily obtained through all druggists, and is a most useful adjunct to our dietaries.] (Mr. Judson S. Bury, Medical Chronicle, Oct. p. 47.)

AFFECTIONS OF THE URINARY AND GENERATIVE SYSTEMS.

Albumen in the Urine.—*Suggested Modification of the Nitric Acid Test.*—The clear superiority of nitric acid in regard to the precision of its indications is an inducement to seek for some means whereby its objectionable qualities may be mitigated without impairing its efficiency as a test. Dilution with water does not answer this purpose, because the loss of density thereby produced renders the test unsuitable for application by the contact method; but dilution with saturated solutions of certain neutral salts gives promise of better results. A mixture of one volume of strong nitric acid with five volumes of a saturated solution of sulphate of magnesia makes an admirable albumen-test. It forms a water-clear solution, which does not fume, nor stain nor burn the fingers or garments. Its specific gravity is 1·240, so that it sinks with rapidity through a column of urine in a test tube, and is suitable for testing by the contact method. It is distinctly more prompt and sensitive as a test than the pure acid, and its action in regard to albumen, mucin, and peptone is similar. It acts less strongly than the pure acid on the colouring matter of the urine, and is not prone to cause disengagement of gas from destruction of uric acid. One of its recommendations is that it can be carried about in a corked bottle with considerably less risk of a catastrophe to skin and garment than the strong acid. (Dr. Wm. Roberts, Medical Chronicle, Oct. p. 4.)

CATHETERISM.—*Use of Cocaine.*—It will, I think, be proved that the greatest good will come from the use of the cocaine in the cases of irritability of the deep urethra associated with prostatic disease. In these cases the passage of a catheter, so essential to the comfort and even the life of the patient, is frequently rendered painful, and not rarely impossible, by spasm of the deep urethra. The use of cocaine promises quickly to reduce both the pain and the spasm, and allow of the easy passage of the instrument, and this, too, by a procedure quite within the province of an intelligent patient to use after proper instruction. A four-per-cent. solution of the hydrochlorate of cocaine in almond-oil makes an excellent lubricant for urethral instruments, and I think may prove even better than the watery solution for applications to the urethra. Its use in this way, in a few cases, has been very satisfactory. (Dr. F. N. Otis, New York Medical Journal, Dec. 6, p. 637.)

COCAINE AS AN ANÆSTHETIC FOR THE GENITAL MUCOUS MEMBRANE.—The usefulness of this newly-introduced drug as an anæsthetic to the mucous membrane of the eye and the larynx has been attested by many observers. Dr. Fränkel found that the 5 per cent. solution, which is effectual in the case of the just named mucous membranes, is not enough to anæsthetise the vagina. He therefore employed a 20 per cent. alcoholic solution. (Cocain mur. 1, aq. dest. 3, spt. vin. rect. 2—not to be filtered. This solution, if kept, becomes thick and turbid, but can be restored to its proper condition by putting to it a few drops of alcohol.) By painting the vulvo-vaginal mucous membrane with this solution, he finds the following results can be obtained:—(1) The sensitiveness to pain is considerably diminished; proceedings which ordinarily produce painful sensations are felt superficially on the mucous membrane hardly at all, and in the deeper parts much less than without cocaine. (2) Inflamed mucous membrane is made free from pain by cocaine, and the pallor which follows its application shows its effect in producing ischæmia. (3) The reflex excitability of the vaginal orifice is diminished. Hence cocaine is of great value in vaginismus. It is useful in fissure of the anus, and as a preliminary to the introduction of the rectal speculum; also as a preliminary to cauterisation of the vulva, the removal of warts of a urethral caruncle, and other measures which cause local pain. (Dr. Ernst Fränkel, Breslau, Medical Times, Dec. 27, p. 902.)

DISTENSION OF THE BLADDER.—*Aspiration.*—In distension of the bladder due to either impermeable stricture or traumatic rupture of the urethra, or either enlargement or cancer of the prostate, when it is found impossible to pass a catheter, I have had great reason to be satisfied with the use of the pneumatic aspirator, the bladder being punctured with a fine needle over the pubes; and here I recommend the use of a large curved needle, so that you can efficiently empty the viscus. In one case I had under my care, of impermeable stricture of the urethra, with retention of urine, in which I failed to pass a catheter, I emptied the bladder with the aspirator over the pubes; and in a few hours afterwards, the spasm being relieved, the patient passed his urine by the urethra. I was enabled to pass a small instrument through the stricture, which I split up, and the patient made a good recovery. (Mr. F. B. Jessett, British Med. Journal, Nov. 1, p. 853.)

DYSPNŒA IN BRIGHT'S DISEASE.—Dyspnœa may occur in Bright's disease, and so closely resemble asthma or a form of bronchitis as never to arouse a suspicion in the mind of the medical attendant of its real nature. The dyspnœa may be continuous, or of a paroxysmal character, or it may be in a chronic form, and occur for weeks, or even for years. The probable cause is not the loss of albumen in the urine, but defective renal elimination, called uræmia. Acute dyspnœa, if it occur in Bright's disease, is from œdema glottidis, or effusion into the submucous membrane of the larynx. This subject, which is an important one, will be found fully described by the author of the paper. (Dr. R. P. Howard, p. 194.)

HÆMATURIA AND HÆMOGLOBINURIA.—*The Difference Between.*—In those cases in which we find blood in the urine we call the affection hæmaturia, and the blood may be derived from the bladder, from the ureters, or the kidney. In all such cases we find red blood-corpuscles in the urine, and we have good reason to call the affection hæmaturia. But there exists another class of cases in which the urine is also coloured with blood, and in which you find blood-pigment too, examination with the spectroscope showing the characteristic absorption lines of hæmoglobin. On examining a drop of the urine under the microscope, however, you do not find a sign of a red blood-corpuscle. You find, instead of red blood-corpuscles. a detritus which has a brown or blood-red colour. We call such an affection hæmoglobinuria. (Prof. Northnagel, p. 197.)

NOCTURNAL INCONTINENCE OF URINE.—*Large Doses of Belladonna.*—It is well known that belladonna is the best if not the only remedy for nocturnal enuresis, but the point of the following case is the large dose and the permanent effect. The patient, a delicate child aged 7, had been troubled with nocturnal incontinence since her birth. Various plans had been resorted to by the mother without success. She was ordered ten minims of tincture of belladonna three times a day. I heard nothing more from her parents, but a fortnight after I happened to meet the mother, and was told the medicine had been persevered in for six days without any appreciable result, and it was evidently looked upon as a hopeless case. I persuaded the mother to try once more. This time I ordered the belladonna in drachm doses, one dose to be taken in the afternoon, and one four hours later, just before going to bed. These doses caused excitability and a little wandering. The second night there was no incontinence. After that, only one dose a day was taken at bed-time, and this was continued for four more nights. The cure was complete and permanent. Upwards of four months have elapsed, and there has been no recurrence of the trouble. There can be no doubt, in this case, that the taking of the belladonna and the curing of the incontinence were cause and effect. It is a very clear instance of the different effect of the same drug taken in different doses. (Dr. E. Paget Thurstan, Tunbridge Wells, British Med. Journal, Feb. 7, p. 278.)

POLYURIA IN CONVALESCENCE FROM TYPHOID FEVER.—The attention of Dr. Spitz having been attracted by the case of a convalescent from typhoid fever, who passed from three to four quarts of urine a day, he was led to study the subject more closely. He found, to his great astonishment, that polyuria, sometimes to a remarkable degree, was present in about half the cases of convalescence from typhoid. The amount of urine excreted was usually greater as the fever itself had been more severe. The urine is of a light yellow colour, transparent, without sugar or albumen, and forming no special deposit. Its specific gravity varies inversely to the total amount excreted during the twenty-four hours. The polyuria begins at the period of greatest oscillations of temperature, and persists up to the fifth or sixth week of convalescence. It would seem to be of favourable prognostic import. (Dr. Spitz, Practitioner, Dec. p. 452.)

REMOVAL OF VASCULAR GROWTHS FROM THE FEMALE MEATUS URINARIUS.—*Cocaine.*—I have performed two operations, after having twice painted the growth, and the area surrounding its attachment, with a twenty per cent. solution of cocaine, seizing it with forceps, and cutting it off with curved scissors, and on neither occasion was anything felt by the patient. I did not try a weaker solution, but am inclined to think it would answer. It is probable that cocaine will be found serviceable in most cases of operation about the vaginal orifice, the opening of labial abscesses for instance. (Dr. Clement Godson, British Medical Journal, Jan. 3, p. 17.)

STRICTURE OF THE URETHRA.—*An Undescribed Form of Stricture of the Orifice of the Male Urethra.*—Under this title the editor of the Bristol Medico-Chirurgical Journal gives two cases of an almost identical nature, where, with an acquired adhesion of the prepuce, a curious diffuse induration of the mucous membrane existed, involving the whole surface of the glans penis, and extending into the meatus, causing the narrowing of the canal. The mucosa had become converted into a hard semi-cartilaginous tissue, much resembling in consistency the cicatrix of a deep burn or scald. In neither case was there any history of injury or inflammation. Mr. Smith attempted to remove the altered tissue, but failed to separate it from the subjacent healthy structures, and only slight and transient improvement was obtained by the constant passage of bougies. He suggests that the condition is akin to that seen in cases of scleroderma affecting other parts. (Mr. J. Greig Smith, Bristol Medico-Chirurgical Journal, Sept. p. 154.)

URETHRAL FEVER.—*Its Nature and Prevention.*—In the fever known as urethral fever it would appear that we have a more probable example of the influence of the nervous system. In what Mr. Horsley calls the "fulminating" form of urethral fever the rise of temperature occurs immediately upon the operation, and the possibility of a septic influence is regarded as extremely small and improbable. Confirmatory evidence is afforded in the fact that the most rapid and severe form of urethral fever may follow the passage of a blunt instrument without any wounding of the mucous membrane. The fulminating form of urethral fever occurs in 63 per cent. of the cases by catheterism; the mild subacute form is caused by internal urethrotomy in 76 per cent. of the cases. The two forms of urethral fever already mentioned are absolutely distinct from uræmic fever or any kind of fever which may accompany renal disease. In the fulminating form the temperature shoots up to its highest point (above 104°), on the average in four hours and a half. In the next two hours it falls nearly half way back again, and then the normal is gained gradually by the end of twenty hours. The average age of the patient is forty-two. The symptoms of stricture are almost invariably of recent date, the average duration being eighteen months. The existence of centres all along the spinal cord which are concerned with the formation of heat has been rendered most probable from the experimental researches of Naunyn, Quincke, Wood, and Heidenhain, as well as by clinical observations, and the paper by Hale White is mentioned in this regard. Whether the spinal centres are of a thermo-genetic or thermo-inhibitory nature still remains doubtful, though the latter view is most probable. The spinal centres are governed by supreme centres situate in the cortex cerebri. These centres may be influenced by reflex irritation, and Mr. Horsley is of opinion that urethral fever owns a neurotic cause. Septic inoculation or absorption of blood are clearly incompetent to explain the severe fever which follows catheterisation with a blunt instrument where no blood is drawn. In respect of treatment, the patient should be prepared by being kept in bed, put under the influence of quinine, previously catheterised gradually up to No. 4 E., given one-third of a grain of morphia an hour before the operation, and operated upon under the influence of ether, or, better, chloroform. The operation should be internal urethrotomy. No instrument should be left in, and none should be passed for four days. Diffusible stimulant and external heat should be aided by the employment of chloroform or morphia if a rigor set in. (Mr. Victor Horsley, The Brown Institution, London, Lancet, Dec. 27, p. 1135.)

Vesical Calculus in the Female.—*A New Operation for Removal of.*—A lecture by Mr. T. P. Pick, on the treatment of calculus in the female, in which he says the best operation for the removal of calculus too large for lithectasy is vaginal lithotomy, reminded me of an operation I devised and practised for the removal of a calculus in a girl. The following are the notes of the case. Nundibhai, a girl, aged nine years, was admitted into the Indore Charitable Hospital, on March 6th, 1875, suffering from vesical calculus. As the calculus was too large for its removal by lithectasy in a child of this age, and not liking to try vaginal lithotomy in so young a patient, it occurred to me that it would be practicable to remove the stone by a modification of the ordinary operation of lateral lithotomy in the male. Accordingly, on March 9th, I placed the girl in the position of lateral lithotomy, introduced a curved staff, and made an incision in the left labium, parallel with, and close to, the ramus of the pubis. This incision I deepened by dissecting inwards and upwards in the direction of the neck of the bladder, carefully avoiding wounding the vagina, till, at the membranous portion of the urethra, I felt the groove on the staff. On this, I divided the neck of the bladder, introduced the forceps, and removed, without any difficulty, a stone three-quarters of an inch in diameter. The after-progress of the case was most satisfactory. For some days, all the urine was discharged through the wound, which rapidly contracted, and healed within three weeks. The girl was discharged cured on April 1st. (Surgeon-Major T. Beaumont, M.D., British Medical Journal, Oct. 4, p. 654.)

Washing-out the Bladder.—The following is a method first adopted by myself in a case of malignant disease, and found very convenient—viz., an india-rubber tube, such as is used for infants' feeding-bottles, only about eight feet long. One end may be attached to the catheter, and the other end passed over a small tube fixed in a leaden weight of two or three ounces. This weight may be placed in a small pail containing the medicated solution hanging by a cord passed through a hook in the ceiling. By means of a cord the reservoir may be raised or lowered, thereby increasing or diminishing the force of the stream. The patient is free to move about within certain limits, and the hands are more free; in a sensitive organ there is less danger of causing pain from movement of the instrument; the flow may be arrested by simply pressing the india-rubber. The stream, after the weight and reservoir are in position, may be caused to flow by rolling a bottle over a few inches of the tube towards the opening of exit. There is nothing startling in the above method; and although I have never seen it used but by myself, I do not claim any great originality in it. A trial of this cheap apparatus with a "double tube" catheter will prove its efficiency.—("Beaver," Lancet, Nov. 8, p. 855.)

AMPUTATIONS, FRACTURES, DISLOCATIONS, AND DISEASES OF THE BONES, JOINTS, ETC.

Congenital Club-Foot.—The treatment of congenital talipes, of which the equino-varus position is by far the most common, should be commenced immediately after birth, by the application of one or other of the simple tin splints used by Dr. Little, alone or in combination with the artificial muscle of Mr. Barwell (an india-rubber band so arranged as to gradually bring the foot into good position). The more complicated and expensive instruments are very rarely needful, or of greater benefit than these simple appliances, which can be obtained of any intelligent whitesmith. The division of tendons is rarely necessary if treatment is begun, as it ought always to be, without a day's delay. (Mr George A. Wright, p. 249.)

Disease of Bone Near to or Part of a Joint.—Let us suppose that a certain portion of bone—for instance, one of the femoral condyles or one side of the tuberosity of the tibia—is enlarged, painful, and particularly sensitive to pressure; that the pain augments at night, and in the more characteristic forms of disease the limb may start violently just as the patient is falling to sleep, and the skin over the tender point of bone may be red. These symptoms indicate that the inner parts of the bone are inflamed, and that the consequent hyperæmia and effusion within the solid case produce very considerable tension; indeed, the last two symptoms show pretty clearly that suppuration is imminent or has already commenced. If this inflammatory tension, with or without suppuration, be allowed to continue, it will relieve itself in some direction, and in the vast majority of cases the inflammatory products tend towards the joint cavity. Now, it is not, in my opinion, consistent with the surgeon's duty to stand aside and let such an injurious event occur; he has, indeed, the power to guide the morbid process along a safe course, and the opportunity which such power gives him should not be neglected. As near as possible to the site of greatest tenderness and swelling he should choose a point whence he can reach the bone without opening the synovial cavity, and here, turning aside a little flap of soft parts, together with the easily detached periosteum, he may, with a small trephine head, make an opening in the bone. If the subject be so young that the epiphysis is still cartilaginous, he may, with a gouge rotated in the hand, remove a plug of cartilage down to the osseous nucleus. While this is being done, he must observe what sort of fluid flows. If it be not pus, he must examine with a stout needle fixed in a handle or in a needle-holder to find any softened or otherwise diseased bone that may enclose an abscess cavity. Pus, when present, should be detected and eliminated. The treatment, however, is quite successful, even though suppuration have not yet occurred. I have often obtained brilliant results by the mere evacuation of serum and of other inflammatory products. (Mr. Richard Barwell, p. 241.)

DUPUYTREN S CONTRACTION OF THE FINGERS.—*Goyrand's Operation.*—It is a circumstance of vast importance that the whole of the fibrous tissue attached to the principal plane of fascia is involved in the morbid condition. More especially is it the case that the minute processes which connect the skin with the fascia are involved, and that these two structures are thus abnormally bound together. This union between skin and fascia is often so intimate that the two structures seem to be almost fused together in certain places. This occurs chiefly at the transverse cutaneous folds, and I have observed in some cases that at these points there had taken place perfectly evident absorption of the skin, together with its underlying cellular tissue and fat. Now, in order to succeed in straightening out the contracted fingers, mere division of the fascial cords cannot, with this condition of the skin, be sufficient. A certain advantage will no doubt be obtained, but the puckered and unyielding skin will immediately be put on the stretch, and, unless means be taken to unfold this, such advantage will be very slight and very transitory. Goyrand's operation is much superior to Dupuytren's for the relief of this affection. It will be found fully described at page 237. It consists, broadly, in making a longitudinal incision over the tense digital prolongations of the fascia, separating the skin from them, and cutting across the isolated cords. The lips of the incision are then brought together, and the fingers fixed in the extended position. In February last a case came under my care, in which the attachment of the skin to the fascia was so very intimate and extensive that I was forced to adopt some method of treatment with a special view to its liberation. I unwittingly followed in the footsteps of Goyrand, and was so well satisfied with the result that I have performed the same operation in three other cases since—six hands in all. The only difference between my own practice and that of Goyrand, so far as I understand, is that I believe I attach more importance to the complete liberation of the skin than he appears to have done. (Mr. James Hardie, p. 236.)

FOOT.—*Wladimiroff's Osteo-Plastic Operation.*—Dr. Sklefassowsky relates the case of a man on whom he has performed an osteoplastic operation first devised and practised by Dr. Wladimiroff, of Kazan, by whose name it may perhaps best be known. The operation consists in the removal of the posterior part of the foot and the ankle-joint and the union of the anterior part of the foot to the leg, so that the foot is in a line with the leg, and the patient subsequently walks upon the heads of the metatarsal bones and the fully extended toes. The method of procedure is as follows:—An incision is made straight across the sole on a level with the middle of the scaphoid bone; on each side this incision is continued up to the malleolus, and then straight across the back of the ankle. The incisions are all carried down to the bone, and the ankle-joint is entered from behind and disarticulated. This done, the heel is seized, and the soft parts of the dorsum of the foot are carefully separated from the bones, care being taken not to expose or injure the dorsal artery of the foot. The transverse tarsal joint is now to be opened and disarticulated, and the os calcis and astragalus removed. The articular surfaces of the cuboid and scaphoid, and the lower ends of the tibia and fibula, are to be sawn off, and the foot is then to be applied to the end of the leg, and first the bones, then the soft parts, united with sutures. The advantages claimed for this operation are, that while permitting of the removal of diseased parts it preserves healthy structures, and is not such a mutilation as is a Syme's or Pirogoff's amputation, or an amputation through the lower third of the leg. The result is stated not to be a great deformity, the line of the limb is preserved, and the foot forms an excellent basis of support. The cases for which it is suitable are intractable ulcers of the heel, disease of the tarsus limited to the os calcis and astragalus, and new growths similarly limited. (Editor of Lancet, Jan. 24, p. 165.)

FRACTURES OF CRANIAL VAULT.—*Escape of Cerebro-Spinal Fluid in.*—Cases of simple fracture of the skull, followed by collections of cerebro-spinal fluid beneath the scalp, are peculiar to children. When cerebro-spinal fluid escapes through the vault (whether the fracture be simple or compound), the injury has extended to the ventricular cavity, (Mr. Clement Lucas, p. 221.)

FRACTURE OF THE CLAVICLE.—*Mechanism of Displacement.*—As soon as the integrity of the clavicle is lost, the serratus magnus and pectoralis minor rock the scapula forward around the thorax, while the rhomboideus major tilts its lower angle upward. Hence the acromion is lowered and moved toward the median line anteriorly, pushing the outer fragment of the clavicle before it. Should the line of fracture be just within the insertion of the subclavius, this muscle would tend to act in the same way, drawing the outer fragment toward the sternum; but this would, in most cases, be only a trifling accessory. The effect above described can be produced by the serratus magnus and pectoralis minor, and by them alone; nor is it opposed by any of the other muscles of the shoulder. Now the practical bearing of the explanation is by no means unimportant. Restore the scapula to its position, and the outer fragment of the clavicle is also drawn into place. It is useless to push up the shoulder, and to put pads in the axilla, and to bring the elbow forward and inward. The scapula itself is the thing to be acted upon. For this purpose, the best apparatus yet devised seems to me to be that of Dr. Sayre, of New York, consisting of two wide strips of adhesive plaster, so applied as to draw the upper part of the humerus, and with it the scapula, toward the median line of the back. A detailed description of the method may be found in many works on surgery. Rest on the back for the first week or ten days, if submitted to by the patient, would be a valuable accessory to its efficiency. (Dr. J. H. Packard, Philadelphia, British Medical Journal, Jan. 3, p. 12.)

Treatment by the "Cravat Method."—In the Boston Medical and Surgical Journal, Dr. Wetmore describes this method. Its application depends upon the fact that, owing to the anatomical arrangement of the fibres of the pectoralis major, the clavicular portion of this muscle is a direct antagonist of the sterno-cleido-mastoid, and the further the humerus is carried backward the greater is the tension of these fibres, and the more perfect the restoration of the fragments (in the ordinary form of fracture). A shawl or piece of cotton cloth or muslin is folded like a "string neck-tie" or cravat, so as to be eight inches in breadth and two yards long. Placing this wide-folded bandage across the palm of his hand, the surgeon then seizes with this hand the elbow corresponding to the broken clavicle. The two ends of the bandage hang on to the floor. The one falling inwards towards the patient is carried upwards in front of the patient's shoulder and over the back, making a spiral movement in front of the shoulder; it is then entrusted to an assistant. The outer end of the bandage is then carried across the forearm, behind the back, over the opposite shoulder, around the axilla; here it meets the other end, which may be carried under the axilla and over the shoulder of the opposite side, thus making the figure-of-eight turn around the shoulder. This twist, it will be seen, also makes the figure-of-eight around the elbow of the affected side. The forearm should be supported by a sling which raises it to an acute angle, in order that gravity may assist in moving the whole arm backwards. No method can be successful if the humerus be allowed to maintain a perpendicular position. The bandage, as it passes in front of the arm, does not press on the axillary border of the pectoral muscle, and thus avoids the objection to the ordinary figure-of-eight. Its advantages are—(1) The apparatus is readily and everywhere obtainable. (2) It can be applied over the ordinary clothing. (3) It is easily readjusted in case of disarrangement. (4) Any attendant can be instructed so as to readily keep it in place. The plaster method of Sayre is the more secure, firm, and unyielding *at first*, and the more sightly; but plaster is not always at hand, it is apt to excoriate in hot weather and to slip, and it is tedious and irksome to bear. (Dr. Wetmore, Medical Times, Jan. 3, p. 26.)

FRACTURE (UNUNITED) OF THE FEMUR.—*Wire Sutures.*—At a recent meeting of the Leeds Medico-Chirurgical Society, Mr. Robson showed a case of ununited fracture of the femur, in which, twelve months after the original accident, he had wired together the refreshed ends of the bone by silver wire suture, with an excellent result, the man being able to walk several miles, six months after the operation, without pain or discomfort. The operation was done strictly antiseptically, and the wire was removed by a second incision three months afterwards, the bone then being quite firmly united. The man came to the infirmary, requesting to have the limb amputated. (Mr. Mayo Robson, British Medical Journal, Dec. 6, p. 1142.)

FRACTURE OF THE FIBULA.—*Diagnosis and Causes of.*—The diagnosis of this injury is more difficult when there is but slight displacement, and the patient is fat or muscular. One procedure, however, answers admirably, viz., feel for the head of the fibula, just near its junction at the tibia, in the neighbourhood of the annular ligament. At this point make decided pressure, tilting the distal end of the bone, and, if fracture be present, pain will be felt, not at the point at which pressure is made, but at the point of fracture. This fracture is peculiarly the fracture of the leg, consequent on falls from a height, especially when the foot is slightly everted. Further, where there is lack of co-ordination in walking, as with drunken men, fracture of the leg, if it take place, seems to select the lower end of the fibula as its favourite seat. Indeed, so commonly do we admit drunken men to this hospital suffering under this lesion, that I call it "the drunken man's fracture." (Dr. Levis, Medical Times, Oct. 25, p. 585.)

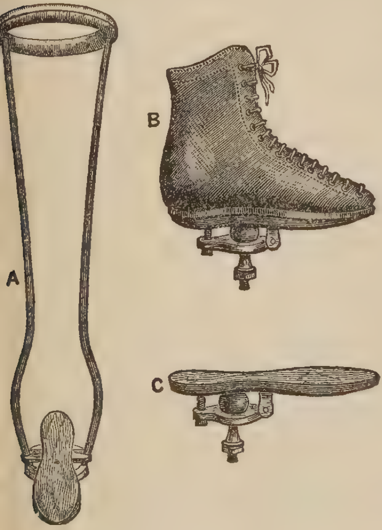
FRACTURE OF THE PATELLA.—*Treatment by Wire Suture.*—Dr. Lediard, surgeon to the Cumberland Infirmary, records two cases of this kind. The first was a case of ununited fracture of six months' standing, in a man aged 25 years. The fracture was exposed with full antiseptic precautions, the edges freshened with a saw, the tendon of the quadriceps divided, and the fragments brought together with two wire sutures. Thirteen months after the operation the patella was still ununited, but the fragments were only half-an-inch apart instead of 1½ inches before the operation, and the movements of the joint, although useful, were limited. In case 2 the fracture was simple and recent, produced by direct violence, and accompanied by large effusions into the joint, which required to be drawn off by the aspirator. Three weeks after the injury, the fragments were brought together in the ordinary way by means of wire suture. Three months afterwards, the suture was removed, perfect union having taken place. There was some limitation of the movements of the knee joint, probably due to the presence of adhesions within its cavity. (Dr. H. A. Lediard, Med. Times, Oct. 25, p. 575.)

RESECTION OF THE KNEE.—*Use of a Superior Curved Incision.*—In the majority of cases of fungous disease of the knee, the superior curved excision, recently advocated by Hahn, will, it is held, be found the most convenient. This incision forms an arch with the convexity directed upwards, and is made through the tendon of the quadriceps muscle. The flap thus formed, which contains the patella, is turned downwards, and the upper recess of the joint is at once freely exposed. When this recess is much diseased and extends far upwards in front of the thigh, the superior curved incision is by far the best. Much importance is attached to this recess, as being almost constantly involved in fungous disease, and as being the starting point of relapse after resection. Another advantage of the superior curved incision is that the wound in the soft parts is not in the same line with that in the bones, and that the cleft between the same surfaces of the femur and tibia is covered by the flap, and not so much exposed, as in the usual operation, to external influences. (Prof. Bruns, Medical Record, Oct. p. 426.)

OSTEOMYELITIS.—Unfortunately, in cases of osteomyelitis, even when adopted early, treatment is rarely attended with very satisfactory results. Should there be much pain and fever, salines with opium may be administered with advantage. Iodine of potassium has in some cases alleviated the pain. It is possible that in those cases where the administration of this drug has been followed by relief, the inflammation may have had a syphilitic origin. Complete and absolute rest should be enjoined, and the diseased limb arranged in such a manner that the blood has no tendency to stagnate. Some benefit might possibly be derived from the topical application of cold in the early stages; also from local depletion by means of leeches. When these simple means have failed, as they often will do, then the question of operative interference should be seriously entertained, and this must not be delayed too long, for complications of a serious and fatal character may at any time set in. Besides division of the soft structures covering the bone, which sometimes affords temporary relief, trephining the bone in order to allow the pus to escape has yielded the best possible results in the hands of some continental surgeons. At present, I will not dwell further on this important means of relief, but I hope before long to publish the results obtained in cases which have come under my observation. The remaining mode of treatment consists in the complete removal of the disease by amputation. When the disease invades a bone in its whole extent, we have no alternative but to exarticulate the member, because experience abundantly proves that amputation in the continuity of a bone so diseased is apt to end in failure. The experience of army surgeons, and especially of Sir J. Fayrer, may be cited in support of this procedure. (Mr. Thomas Jones, Med. Chronicle, Nov. p. 125.)

Suppurative Osteomyelitis.—Its Relation to Pyæmia.—A close connection undoubtedly exists between suppurative osteomyelitis and pyæmia; still there is much difference of opinion in regard to the relationship. For while some think that the suppurative inflammation of the medullary tissue is a symptom of the general blood infection, others consider that the osteomyelitis is the primary disease, and that the systemic contamination arises from it. In a considerable proportion of cases the latter appears to be the more probable explanation. The reason why pyæmia so frequently complicates and arises from suppurative osteomyelitis, is to be found in the great absorptive power of the marrow and in the readiness with which septic changes occur in the pus of a marrow abscess. (Mr. T. Jones, p. 232.)

TALIPES.—*New Splint for.*—It has always appeared to me, as a general surgeon, that in our ordinary hospital practice cases of confirmed talipes frequently do not obtain the full amount of benefit that is possible—more frequently, I mean, than other varieties of remediable defects. I suppose that this might be explained, if it be really a fact, in different ways by different surgeons. The explanation that has occurred to me is simply that the mechanical treatment following any operative procedure needs to be so prolonged, and so assiduous during the whole time, that the careful patience of either the surgeon or the patient often breaks down before the cure has been effectually and permanently established. I have been in the habit of using sheet iron side splints with a foot-piece, fixed on by first firmly strapping the foot to the foot-piece while the foot is in its deformed position, and then forcing the side splint to the leg, and so reducing the deformity. This plan answers well enough if the splint be refixed every few days for six or twelve months. In my own practice I observe that I keep up a pretty close supervision of the case for a month or two ; then it gradually drops entirely into the hands of my house-surgeon ; subsequently it falls to the care of the nurse ; and lastly is lost sight of for a time, and when seen again is often as bad as when it first came under treatment. For a long time I have felt that if a surgeon had the time to undertake a complete supervision of his cases of talipes he could usually cure them by simple mechanical means ; and it was owing to the unsatisfactory results that I constantly met with in the practice of my colleagues as well as myself, that I attempted to devise a splint which would be so easy to manipulate that the surgeon could himself take in hand the treatment of his talipes cases without that loss of time which at present frequently causes us to delegate the duty to some one else. The splint (see figure) consists of the ordinary side rods and padded ring of a Thomas's knee splint (A). Joining the side rods at the bottom is a ring to walk upon and a cross-bar from one to the other. This latter has a slot in the middle part of it, in which a strong steel ball can be fixed. The ball works in a socket attached to a plain wooden foot-piece (C). The foot-



piece is screwed to the socket by three or four ordinary screws, which can at any time be taken out and a boot attached instead, when the treatment is sufficiently advanced (B). The method of applying the splint is as follows:—The foot-piece with the ball-and-socket joint is taken out of the splint, the joint unscrewed, and the ball removed, so that strapping can pass under the foot-piece anywhere. The child's foot is then very carefully strapped to the foot-piece in such a manner that it will not require to be renewed for some time. The ball is then replaced and loosely screwed up, and the foot-piece with the limb fixed to the splint. It is unnecessary as a rule to put on more than a couple of straps round the leg and splint, but when inversion is marked a better fixation of the limb will be required in order to be able to evert the foot. All that is left to be done is to gently force the foot into a somewhat improved position and screw up the ball-and-socket joint. At the next visit this is loosened and refixed in a still better position; and as it is only the work of a minute, it can be undertaken by the surgeon as he makes his daily rounds. Children walk about easily in these splints, and so far I have met with very good success in using them. If only one leg is affected, a high sole should be made to the opposite boot to avoid obliquity of the pelvis. The drawback for hospital use is the cost. There is a good deal of work in the splint, and it must be well done or the joint will not remain fixed when in active use. Mr. Critchley, of Liverpool, has taken great pains to carry out my instructions in making the splint, and has succeeded very well. He supplies them to the hospital at a sovereign each. (Mr. F. T. Paul, Lancet, March 7, p. 424.)

WOOD-WOOL AND CORROSIVE SUBLIMATE IN ANTISEPTIC SURGERY.—The results he had obtained with wood-wool were very favourable. The wood-wool was treated with sublimate solution, then placed in bags so as to be always ready, and in dressing the wound these were to be placed above the iodoform gauze, so as to soak up the discharges. If fresh bags of wood-wool were placed upon such as were soaked through with discharges, a waterproof layer was superfluous. He looked upon wood-wool as being a cheap, serviceable dressing, but not possessing any special advantage over those in use previously. He applies first (he says) iodoform gauze direct to the wound, as iodoform is a powerful antiseptic, so that where it is present no sepsis will take place even if decomposing material is near. (It will be remembered that Sir Joseph Lister concludes from his own rather crude experiments that iodoform is a somewhat inferior kind of antiseptic.) In consequence of this it is not necessary to change the dressings so often. As regards the fluids for irrigating the wound, it had been his constant endeavour to employ such as even in weak solutions would most effectually kill germs, or at least prevent their development. Koch gave a prominent place to sublimate. After describing Koch's method of testing antiseptics, he said that Koch's investigations led to expectations being formed in regard to sublimate that had not been justified by the results. Long-continued irrigation with a 1-1000 solution might set up toxic symptoms. There would be danger of mercurial poisoning not only for the patient but also for the operator, whose hand would be frequently bathed in the mercurial solution. On account of the cumulative action of the salt the sublimate solution could not be used for the disinfection of sponges. As regarded the antiseptic power of the drug, Koch stated that 1-1000th solutions were capable of arresting the development of bacteria, whereas the greater part of the sublimate that was brought into contact with wounds became changed into an albuminate of mercury that had no antiseptic action. He did not consider sublimate to be either a good disinfectant or free from danger. (Prof. Billroth, Medical Press, Nov. 19, p. 436.)

AFFECTIONS OF THE SKIN, ETC.

ABSCESSES.—*Diagnosis of Deeply-Seated Abscesses by the Aspirator.* —In deeply-seated abscess, the aspirator is of the greatest possible service, as often patients come before us with swellings deeply embedded in the muscles of the limbs. When there is no perceptible fluctuation, in fact, the swelling feels hard and inelastic, but often there are only collections of pus, or cysts; a fine needle of an aspirator introduced quickly decides the nature of the swelling. Dr. Moore relates a case of a delicate boy, aged nine years, who for months had been under treatment of a hospital surgeon for a swelling in his thigh, and had been subjected to various kinds of treatment by local applications. The swelling was situated in the front and lower fourth part of the femur, evidently under the fascia. He quickly introduced the finest needle of Dieulafoy's aspirator, and removed about three ounces of pus. The thigh was next strapped round, to bring the walls of the abscess together; the patient was sent to the seaside, and had no return of the abscess. (Mr. F. B. Jessett, British Medical Journal, Nov. 1, p. 852.)

Cold Abscesses.—Injections of Ether and Iodoform.—The author obtains a rapid cure in almost all his cases of cold abscess, abscess from diseased bone, or from congestion, &c., by ethereal injections of iodoform of the strength of one in twenty. The abscess is first emptied by means of Potain's aspirator, and then receives from 100 to 300 grammes of the iodoform solution. By not exceeding this quantity (*i.e.*, five to fifteen grammes of iodoform), no fear of accidents need be felt. The liquid penetrates into all the anfractuosities and diverticula of the abscess, the ether becoming absorbed or evaporated, and the antiseptic agent being deposited uniformly on the pyogenic membrane, the action of which it modifies. This simple means, so exempt from danger and so easy of application, has proved highly successful, very large abscesses having yielded to three or four injections. (Prof. Verneuil, Paris, Medical Times, Nov. 22, p. 725.)

Acne Rosacea.—It is essential that all those who are afflicted with acne rosacea should abstain from all food which is difficult to digest, such as pork, veal, hashes, stews, and uncooked vegetables; and, as a general rule, from wine, beer, and spirits. The face should not be irritated by common soap, and care should be exercised as regards exposure to the wind and sun. The meals should be slowly eaten at regular hours, and the fluid put into the stomach at the end of the meal. In the first degree of the disease, it will only be necessary to prevent the development of the papules, by applying a lotion, made with bismuth and the glycerine of starch of the pharmacopœia, diminishing the starch by three-fourths. When the papules are developed, nothing answers so well as a lotion made with two grains of the bisulphuret of mercury in one ounce of almond-emulsion or glycerine of starch, used every night. When the inflammation is acute, and suppuration is going on, we must, in the first instance, foment the face with hot water (placing a hot sponge over any troublesome spot is a simple and useful plan); and, when the acuteness of the inflammation has subsided, rub in an ointment made with twenty grains of the yellow oxide of mercury in one ounce of lard, and continue this treatment until the inflammatory process has stopped; after which, the bismuth and starch lotion answers well. Internally, I always rely upon a mixture made with an alkaline carbonate; soda, I think, is best. If there be much inflammatory thickening, I add the solution of perchloride of mercury, or if there be any syphilitic tendency to grapple with, I add the Donovan's solution; if scrofula, cod-liver oil; but internal and external remedies are useless where organisation of tissue has taken place. I have never seen an operation performed upon the advanced cases of acne rosacea. (Dr. Tom Robinson, p. 315.)

Acute Pemphigus.—A fatal case of this very rare malady is recorded, which, from the great importance of its recognition, we briefly abstract. The patient, a railway guard, aged 54 years, without any obvious cause beyond remote exposure, found himself on May 8th with an eruption on the wrists, which appeared as pimples, subsequently becoming blisters. There was no history and no sign of syphilis. On the 6th day the forehead was covered with scabs, and the hands and feet were the sites of large bullæ, some of which had broken and left raw surfaces. The temperature was not raised, the internal organs were recorded normal, and the urine was free from albumen. On the 7th day, the eruption continuing the meantime to increase, he became delirious, the temperature rose to 104°, and the tongue was dry and brown. The following (8th) day, the eruption was still further increased, the bullæ in many places being circular and ringed, and rising on deeply red coloured bases. On the 9th and last day, patches had assumed a distinct iris form, perfect circles of coalescing vesicles surrounding reddened patches of skin. Post mortem examination revealed nothing of importance. (Dr. Dyce Duckworth, St. Bartholomew's Hospital Reports, p. 41.)

BURNS.—*Boracic Acid Oil.*—It is now a year since we began to use boracic acid oil as a dressing for burns at the Leicester Infirmary, at first simply in the form of a mechanical suspension of the powdered acid in olive-oil. I have found that 18 grains of powdered boracic acid dissolved in a drachm of hot glycerine, and added to an ounce of olive oil, forms a kind of imperfect emulsion, the glycerine retaining the acid in solution when cold. This can be easily shaken up with the oil. This makes a non-irritating and doubly antiseptic dressing, and extensive burns treated thus, and covered with a layer of some antiseptic wool, require to be disturbed but seldom, and, if not perfectly aseptic, are far "sweeter" than when dressed with, for instance, the carron oil. As a lubricant for catheters, sounds, &c., this boracic oil with glycerine possesses advantages. It is superior to olive-oil, because of its antiseptic property; and better than carbolic oil, because it is less irritating and much more stable; boracic acid being non-volatile. Glycerine itself, too, is a dressing of considerable value by virtue of its dehydrating power. (Mr. C. J. Bond, British Med. Journal, Dec. 20, p. 1239.)

CHRONIC HYPERTROPHIC RHINITIS.—In severe cases, removal of the hypertrophied mucous membrane, and even of the inferior turbinated bone (which is found much thickened), was recommended; for lesser degrees, douches, which should be warm, with or without a little carbolic acid to destroy fœtor, when present, are sufficient. In a few cases the dilatation of the nasal passages with graduated ivory plugs gave good results. Sometimes this condition was associated with polypus. Mr. Watson felt unable to say much on the causes which gave rise to this distressing malady. Solutions of chromic acid were of great benefit in some cases; its application, in cases where caustic action was desired, caused the patient much less pain than either nitric acid, nitrate of mercury, or nitrate of silver. He had used iodoform with advantage in a few cases; but its disagreeable odour rendered it an unpleasant application. (Mr. Spencer Watson, Medical Times, Nov. 1, p. 613.)

CHRONIC ULCERS AND OTHER LONG-STANDING DISEASES OF THE SKIN.—*Jequirity.* —I have used this substance in affections showing great cell proliferation, such as lupoid conditions, epithelioma, sloughing ulcers, &c. When at first disappointed with the ordinary infusion used in eye affections, and also with the dry powder dusted over the surface, I applied to Dr. L. Wolff, the well-known chemist, for a more effective preparation, which would not alone be much stronger, but which would at the same time be more viscid, so as to adhere longer to the surface. This he accomplished in a most successful manner in the following way :—Two hundred grains of the abrus bean are decorticated by being slightly bruised and cracked in a mortar; the red hulls are carefully picked from the cotyledons and, in a bottle, covered with distilled water. They are thus macerated for twenty-four hours, when they are again transferred to a mortar and thoroughly triturated until they are reduced to a smooth paste, when sufficient water is added to make the whole weigh 800 grains. Prepared in this way, it presents all the appearances of an emulsion, and is applied with a large camel-hair pencil or mop to the surface to be treated. The effect of this preparation of jequirity, while almost painless in its application to ulcerated and granular surfaces, soon developed (and often within an hour) a great deal of irritation and inflammation, rendering the edges red and infiltrated, the surroundings œdematous and shining, and caused some febrile exacerbation in the patient, depending in degree on the area involved. The usual concomitant symptoms of such febrile process are apt to show themselves at this stage, such as headache, pain in the extremities, elevated temperature, and high pulse, all of which, however, are not general, but found only occasionally, and particularly in irritable and very susceptible patients. In the course of from six to twelve hours, the products of this specific inflammation are abundant, and soon aggregated on the surface in a desiccated, cuirass-like crust, which now obscures further observation. This crust, in the course of twenty-four hours, further exhibits a tendency to crack and break, giving vent to the flow of the products of the degenerative process. This condition, if left alone, will continue for five or six days, the discharge lessening by degrees; the firmly adhering crusts, if not detached on their own account, are now removed by water dressings, and expose to view a surface studded with healthy granulations and islets of healed-up surface, along with evidence of the progress of the regenerative process at the periphery. In cases where one application does not suffice, and where there is still evidence of the presence of unhealthy granulations, a second application is now made, and conducted as before, a third and further application being made as the case may require. (Dr. Shoemaker, Philadelphia, Practitioner, Nov. p. 364.)

Excessive Local Sweating.—*Zinc Oleate.*—Zinc oleate occurs as a fine pearl-coloured powder, with a soft soapy feel, and very much like powdered French chalk. It has both an astringent and stimulating action. In hyperidrosis and osmidrosis, or excessive sweating, fœtid or otherwise, it is one of the very best remedies for topical use. It is especially applicable to those who suffer from an increased flow of sweat around the axillæ, genitalia, and palmar and plantar surfaces. It is to the latter unfortunate and distressing class of cases, in which the epidermis often macerates, leaving a tender and exposed skin, attended with a disagreeable odour, that it can be used for relief, and at times with permanent good results. (Dr. Shoemaker, British Medical Journal, Oct. 18, p. 753.)

Extraction of Needles through the Skin and Tissues.—In a lecture delivered at La Charité, M. Desprès made some interesting observations on this subject. A young woman striking a table with the palm of her hand thrust a needle into the base of her middle finger, and this, striking against the first phalanx, broke and became fixed there. When seen two days afterwards, the fragment of needle had completely disappeared amidst the inflamed tissues. On pressing at the base of the middle finger, however, a foreign body, pressure on which occasioned pain, could be felt. An incision was made at this point, and a fragment of needle, measuring 1½ centimetre, removed by the forceps. Here the incision was justified by the fact that the foreign body was firmly fixed. The subject of a second case was a young woman into whose breast a needle was driven obliquely by a blow, and entirely disappeared under the skin. Guided by the patient, the presence of the needle could be ascertained; but in this case an incision for its removal would be improper, for the integuments of the breast are so mobile that an incision made in the skin would not correspond to the foreign body. The presence of the needle having been exactly determined, we should seize it in its length and make pressure on its two ends. At one of these we may perceive a slight cracking sound, and here the patient also feels a sharper pain than elsewhere, and this is the point of the needle. If we now press firmly upon the other end, this point will be forced through the integument and can then be seized with a forceps. An incision should never be made except when the body is fixed in the tissues as in the first case. One caution must be borne in mind, and that is, we should never attempt an extraction on the mere statement of the patient that a needle is present in the tissues, and when we are unable to verify its presence; for sometimes persons declare that they have needles in their tissues when they have not; or when we are consulted the needle may have already migrated to another part of the body, this migration sometimes taking place very rapidly. (M. Desprès, Paris, Medical Times, Oct. 25, p. 585.)

INGROWING TOE-NAIL.—The common mistake made is to blame the nail. The nail is not at fault, but the skin surrounding this becomes thickened, hypertrophied, and ulcerated, and grows until the nail is overlapped. Granulations then spring up, from which an irritating discharge proceeds. The operation which I advocate consists in removing with a scalpel all the granulations and hypertrophied skin, together with a large portion of the surrounding sound structures, skin-deep from the side of the toe, sometimes making an open wound nearly one inch long by three-quarters of an inch wide. I generally apply to the wound pads of lint saturated with compound tincture of benzoin. By this operation all the diseased parts are removed at once, and a clean healthy wound left to heal by granulations. As cicatrisation proceeds, contraction takes place, and leaves the nail perfectly free, which has no longer any material into which it can be pressed. I have practised this operation many, many times with most gratifying results, no recurrence having taken place in any of my cases, which is common enough after the usual methods adopted. (Dr. J. Walton Browne, Belfast, British Med. Journal, Nov. 1, p. 857.)

PAPULAR ECZEMA, PUSTULAR ECZEMA OF INFANTS, FISSURED ECZEMA OF PALMAR AND PLANTAR SURFACES.—*Lead Oleate.* —Lead oleate, melted with equal parts of lard or lard-oil, or a mixture of the two, according to the season, to present it in ointment-form, gives a cream-coloured semi-solid ointment of the consistence of simple cerate. It is easier and cheaper prepared than either Goulard's cerate or Hebra's litharge-ointment, or any of the latter modifications, and is also more readily absorbed, and superior to all of them. Unna, and many other physicians who have tested the action of the ointment of lead oleate, report most excellent results from its use. The ointment of lead oleate applied to the denuded skin, has both an astringent and sedative action, arresting by this effect morbid discharges, and allaying irritation. It allays very effectually the intense irritation that is often present in papular eczema, and in those forms of the same disease that appear in the flexures of the joints, around the axillæ, the inner parts of the thighs, and perineum. Pustular eczema of young infants, that is so annoying to the little sufferer, is often benefited, or the inflammation, discharge, and itching entirely checked, by the free application of the ointment of lead oleate. It is equally beneficial in fissured eczema of the palmar and plantar surfaces. If the inflammation and cracking, however, be severe and deep, and require a certain amount of stimulation, the addition of naphthol, oil of camomile, or oil of cade, will increase very much the curative action on the parts. The ointment of lead, oleate is a most useful remedy in hard and indurated papules; in acne about the face, neck, and back, and in rosacea. Thymol, carbolic acid, naphthol, and many other stimulating or soothing agents, can often be combined with advantage to the ointment of lead oleate. (Dr. J. V. Shoemaker, British Medical Journal, Oct. 18, p. 752.)

Ringworm.—Having so often advised the treatment by oleate of mercury during the past four years, I may perhaps be allowed to say that I still think that it is one of the best remedies we possess for the chronic form of the disease; but, as far as my experience goes, I have not had such success with the oleate of copper. I desire now to call attention to another treatment for recent ringworm, when it does not extend over any large extent of surface. It is not a new remedy by any means; but, I believe, a new way of using a well known parasiticide. I have been trying for some time to find out what vehicle penetrates most deeply into the hair-follicles, and think it is chloroform. Chrysophanic acid is a very good parasiticide; and, though it is insoluble in spirit and ether, yet it is soluble in chloroform. Chloroform also dissolves the fatty matter out of the hair-follicles, and thus allows the parasiticide dissolved in it to penetrate deeply. During the last year, I have used a solution of seven grains of the acid to the ounce of chloroform to all cases of recent ringworm, and believe it is the most efficient treatment I have yet tried. The small patches should be carefully marked out by cutting the hair very closely on them, and the chloroform-solution should be well pressed and dabbed into the places with a minute sponge-mop, for five minutes, two or three times a day, according to the amount of irritation produced. The aim of the treatment is not to produce scabs, but to get the solution to penetrate deeply. The sponge-mop should not be much larger than a big pea, and should be continually dipped into the chloroform-bottle, as the solution soon evaporates whilst it is pressed into the diseased spot, and leaves the yellow acid dry on the place. Great care must be taken that the solution does not run on to the forehead or into the eyes, and that the person using it does not inhale the vapour. I always give full directions about the care necessary in using such a potent remedy, and only employ it to small places of the disease. It is well for the nurse to keep her face away from the sponge, and to use the chloroform in a current of air, and not in a small room. The places should be well washed every morning with hot water and soap, to remove any sebaceous matter or crusts, and the hair should be kept closely cut on them till the new hair appears, which is generally in about two to three months; but the remedy should be continued till all diseased stumps have come out. (Dr. Alder Smith, Christ's Hospital, London, British Med. Journal, Nov. 1, p. 858.)

Ringworm.—Chloroform is the vehicle which penetrates most deeply into the hair-follicles. This is a fact to which I called attention in 1881, and several times subsequently. I have used various drugs, such as thymol, salicylic acid, boracic acid, perchloride of mercury, &c., in chloroform, in ether, and in spirits of wine; and I believe that cases of ringworm of the scalp have yielded more readily to this treatment than to any other I have tried. There is, however, one point to which I specially wish to refer, and that is the practice of washing the scalp during treatment. Almost all authorities recommend washing with hot soap and water. In many instances I have found that such treatment has conduced to the spreading of the disease. For the last year or more, I have always given strict injunctions that the scalp is not to be touched with water or soap. It is easy to understand that the spores can be carried from one part of the head to another in the soap and water, where, when dried, they will take root in the epidermis, and so propagate and extend the disease. (Mr. Malcolm Morris, St. Mary's Hospital, London, British Medical Journal, Nov. 15, p. 961.)

I cannot agree that washing the scalp with soap and water is prejudicial in ringworm. In as severe a case as I should ever hope to see, weary with trying perchloride and oleate of mercury, chrysophanic acid, and dilute sulphurous acid, I gave up all active treatment, relying solely on washing the head twice a day (and sometimes oftener) with soft soap and tepid water. The result was most satisfactory. In a comparatively short time the disease gave way, the bald patches soon becoming covered with hair. The great difficulty in these cases is the neglect on the part of parents in fully carrying out the physician's instructions. Patience is truly a virtue here. I believe that petroleum is useful in this obstinate affection. (Mr. Armand Bernard, Liverpool Lock Hospital, British Medical Journal, Nov. 22, p. 1013.)

The following is a simple and very effectual method of treating ringworm of the scalp. The child affected is made to sit down on a chair before a washing-basin half filled with warm water; a folded towel is first of all tied round the child's forehead, in such a way that no fluid poured on the head can trickle down into the eyes. It is best to cut the hair short all round the affected part. If there be many spots of ringworm, the whole head may be closely cropped. Have ready a two-ounce bottle of common spirit of turpentine, an ounce bottle of tincture of iodine, a camel-hair brush, and a 10 per cent. cake of carbolic acid soap. While the child bends forward over the basin, the spirit of turpentine is freely poured over one or more spots at a time, the forefinger being used to rub the turpentine well into the scalp. Almost immediately the dirt and greasy scabs disappear, and the short broken hairs are seen to stand up like bristles. Generally, in about three minutes' time, the child cries out, "Oh it nips!" then we know that the turpentine has penetrated deeply. Immediately, the piece of carbolic acid soap is well rubbed into the parts which have been acted on by the turpentine, and warm water is freely applied to make this soap into a lather, by which means the head is well washed, and soon appears to be beautifully cleaned. The smarting, such as it is, quickly disappears after the application of the soap. The head is then well dried with a towel. Common tincture of iodine, in two or three coats, is now painted well over the affected parts, and allowed to dry. As soon as the hair is dry, some carbolic oil (1 in 20) is rubbed all through the hair to catch such spores as may be there. This treatment, applied every morning, or morning and night in very bad cases, generally cures the worst cases in the course of a week. During the last five years I have used no other method of treatment. The explanation of its success is as follows. Common spirit of turpentine is a powerful germicide; but it is a still more powerful solvent of the sebaceous or greasy matter of the scalp, and it rapidly penetrates into all the epithelial structures of the scalp, the affected hairs included, and clears the way for the application of a still more powerful germicide, namely, tincture of iodine. It is an interesting chemical fact that spirit of turpentine, or, more correctly, oil of turpentine, is a powerful solvent of iodine. This solution of iodine in turpentine is a most powerful germicide, and quickly destroys the fungus of ringworm. If tincture of iodine be applied to the spots which have been treated, as above, first with the spirit of turpentine, and then washed with carbolic acid soap and water, it finds its way down into the epithelial tissues, and into the hair-follicles, following the course which the spirit of turpentine has taken. It is of no use to apply watery solutions of germicides, until the greasy or sebaceous matter of the scalp has been first removed. In some severe cases I have applied a solution of iodine in turpentine, ten grains to the ounce, instead of the tincture of iodine, after the head has been washed and cleaned; but in most cases, the application of tincture of iodine, after the part has been acted on by the spirit of turpentine as above described, is quite sufficient to destroy the disease. Ringworm on other parts of the body may be treated with spirit of turpentine and tincture of iodine in exactly the same way. One great advantage of this treatment is that it may be applied to the head of the youngest child, and causes little or no distress at any time. (Dr. James Foulis, Edinburgh, British Medical Journal, March 14, 1885, p. 536.)

Ringworm.—Instead of following the old procedure, Dr. Shoemaker generally has the affected spots sponged with a weak alcoholic solution of thymol, borax, naphthol, or corrosive chloride of mercury, every day or two. To the surface thus cleansed, he immediately applies a 50 per cent. solution of *boroglyceride* until the entire scalp seems saturated with it. The borax he believes to be one of the most efficacious antiseptic and antiparasitic agents, having at the same time a mild astringent action, and thus tending to allay the irritation and soothe the parts. The glycerine at the same time penetrates and carries the substance into the follicles to the parasite. Glycerine has a great affinity for water and withdraws this from the tissues, thus depriving the fungus of one of its main elements of development. He cannot speak too highly of this simple application, from which alone he has observed rapid cures in some early cases of ringworm of the scalp. Boroglyceride solution is likewise devoid of any poisonous properties, and will be borne by even the most irritable scalp. This solution should be applied night and morning with a little sponge or mop, and must be well rubbed into follicles with the tips of the fingers. Boroglyceride is made by saturating hot glycerine with boracic acid. (Dr. Shoemaker, Practitioner, Dec. p. 457.)

Copper Oleate.—My attention was directed to the curative action of the ointment of copper oleate in a parasitic affection, in the following manner. For several years I have had patients tell me at the hospital, and in my private practice, that they cured this or that member of the family of ringworm by putting an old copper penny in vinegar, and applying the liquid to the patches. Some, however, resisted this treatment, and members of the latter class were usually brought to me with the statement that they had cured other children by the copper penny in vinegar, how was it that it did not do this case any good? Judging that while this coppery liquid might destroy the fungus on the surface, if the parasite after a time passed into the follicles at its lowest depth, and invaded the hair-bulbs, it could not affect it in any way. I therefore reasoned that, if the copper solution had the power to kill the parasite on the surface, why could it not do the same within the follicles, provided it could be carried there? Remembering the great penetrating action of oleic acid, I had it combined with copper and mixed with a fatty base, and applied on an inveterate and extensive case of ringworm on the scalp of a child that had been treated by numerous remedies in vain, and, in six weeks, the case was completely cured. Other cases, both of ringworm on the scalp and body, were tried with equally good results. In tinea versicolor, or chromophytosis, it acts in a most decided manner, removing rapidly the parasite from the surface, as well as that which has penetrated deep into the follicle. The red, yellowish, and often dark-brown desquamating spots will clear up generally quicker and better from the applications of the ointment of copper oleate than by the use of any other remedy. It is equally effective in favus, which also yields quickly to its application. In all vegetable parasitic affections to which it is applied, care should be taken to avoid the too frequent use of water to the parts, which may prevent the copper oleate from penetrating to the lowest depth of the follicle, and thus interfere with its action on the fungus. In fact, I always at the present time continue the application of the oleate alone, until all evidence of the fungus has disappeared, interdicting water entirely during the treatment, which I believe assists in nourishing the parasite, and makes it more active. In case it becomes necessary to clean the parts, the use of oleic acid, alcohol, or ether, will fully accomplish the purpose. It is also unnecessary, using the ointment of copper oleate in parasitic affections, to epilate or pluck out the diseased hairs, as the deep and effective action of the remedy will alone complete a cure, without following the old routine plan, which I have for some time entirely abandoned as painful and unnecessary. Copper oleate, melted and spread as plaster, will relieve, and very often cure, hard and horny warts, corns, bunions, and thickened conditions of the epidermis, to which it is applied. The ointment of copper oleate is often a most effective remedy for freckles, and other yellowish brown or blackish patches of the skin. (Dr. Shoemaker, British Med. Journal, Oct. 18, p. 751.)

SPRAINS.—*The Elastic Bandage.*—This method of treating sprains has recently been recommended by Marc Sée. It is the only method which fulfils the two indications: (1) To cause as rapid absorption as possible of the blood extravasated around the joint (a lesion which controls all the other symptoms, such as pain, swelling, difficulty of movement, &c.); and (2) to favour cicatrisation of the torn ligaments and ruptured parts by complete immobilisation. (M. Marc Sée, Practitioner, Dec., p. 453.)

SYCOSIS, ERYSIPELAS AND SUNBURN, ACNE AND ROSACEA, ACUTE ECZEMA, SORE NIPPLES, ETC.—*Bismuth Oleate.*—The ointment of bismuth oleate, a pearly gray, soft bland substance, possesses an emollient and slightly astringent action, and is useful in soothing and relieving cutaneous irritation. It is a most valuable remedy in all pustular eruptions, lightly pencilled over the surface. In sycosis, it relieves the engorgement of the parts, often aborts the pustules, and will lessen or remove the itching and pricking that annoys and wears out the patient. It soothes and often overcomes the high inflammation in erysipelas and sunburn. In acne and rosacea, it soothes the hyperæmic skin, relieves the engorgement of the glands, often subduing some of the most intractable cases, and bringing to them ease and comfort from their prolonged suffering. In some of the more obstinate forms of acne and rosacea, however, I always deplete the parts thoroughly first, by puncturing with a needle-knife, after which pencil the ointment of bismuth oleate over the surface. It is not only an important, but also a most useful remedy in the treatment of the different varieties of acute eczema, soothing and arresting rapidly the irritated integument. It is a most effective agent often for cracked and sore nipples, used either alone or in combination with opium and belladonna, and arnica, the dry and excoriated condition of the parts giving way on its application. (Dr. Shoemaker, British Med. Journal, Oct. 18, p. 751.)

WOUNDS, ULCERS, BURNS, &c.—*Naphthaline.*—It is of practical use in septic chronic ulcers, and in septic burns, and in such cases is the best antiseptic that can be used. Dr. Stewart has used it in many cases of deep ulceration, and has often—in cases in which two ulcers occur on the same limb—compared its action with that of iodoform, by treating one ulcer with naphthaline and the other with iodoform; the one treated by naphthaline healed much quicker. When a wound becomes antiseptic, iodoform often interferes with the healing process, whereas naphthaline promotes it. It is more powerful, and at the same time less irritating, than carbolic acid. It may be used in the form of powder, gauze, or jute. In cases of putrid ulcers, he applies the powder by dusting; and when the wound becomes antiseptic, he applies the gauze or jute till the ulcer heals. (Dr. Stewart, Montreal, Philadelphia Medical News, Sep. 20, p. 332.)

SYPHILITIC DISEASES.

BUBOES.—*Aspiration.*—Mr. Weston, of the Meerut Hospital, states that he has seen two cases of bubo successfully treated by the late Surgeon-Major Hogg, by means of the pneumatic aspirator. "The men," he says, "went out of the hospital much sooner than they would have done had the buboes been laid open. In one case the operation had to be repeated once. A pad and bandage were used after the pus had been drawn off. In our military hospitals, where the ordinary plan of laying open the bubo is practised, one often sees the resulting sore take an unhealthy action, and, as a consequence, the men are kept in hospital for several months. It would be well, therefore, to give the aspiration treatment a thorough trial." (Surgeon-Major Hogg, Practitioner, Nov. p. 367.)

GONORRHŒA.—*Iodoform Injections.*—The following is recommended and is said to be superior to any other injection:—℞. Pulv. iodoform. 20; acid. carbol., 10; glycerine, 80; aquæ, 200 parts. (New York Medical Record, Nov. 29.)

Soft Sores.—*Abortive Treatment.*—After thoroughly cleaning the sore, it should be treated with a preparation of spirit and potash-soap, carefully dried, and pure salicylic acid applied to the sore, which must be covered up with plaster. The treatment succeeds best when this application is renewed for two days running, and the sore suppurates freely. After three days the sore is covered with a white scab. The salicylic acid should now be abandoned, and an emollient ointment spread on lint employed in its stead. The scab speedily separates, and the wound readily heals without any likelihood of a bubo forming. (Prof. H. von Hebra, Practitioner, Nov. p. 377.)

Syphilis.—*Mercurial Treatment.*—When I first began to treat syphilis, it was the fashion (whenever mercury was given) to subject the patient to a single course, extending, perhaps, over a few months, and then to consider that nothing more could be gained from the medicine, and that its further use should be dispensed with. Experience has convinced me that this view is erroneous, and that the practice based upon it is bad. If we wish to cure syphilis with mercury, the treatment must extend over two years; I mean that the medicine must be given during this time in courses of weeks or months, with certain intervals between them. As a general rule, I advise a six months' course at first, to be followed by an interval of a couple of months, during which the medicine is discontinued. Another course of three months is then advisable, after which a longer interval may be allowed; a third and a fourth course, with an interval between them of three or four months, will complete the treatment. The carrying out of this plan requires much self-control on the part of the patient, and sometimes it is impossible to protract the treatment to this extent. Whenever circumstances are favourable for its adoption, every effort should be made to induce patients to submit to it. (Mr. Alfred Cooper, p. 369.)

Jacarana Lancifoliata.—Having tried a preparation of jacarana lancifoliata from Columbia, where, I am told, it is used by the natives as a specific for venereal diseases, I may state that I have administered it in fourteen cases during the past four months, and have found it more efficacious than any other preparation. In my fourteen cases it has succeeded in stopping the discharge, without any complication, in, at the most, three weeks. I have tried it in two cases of syphilis (one in the secondary stage), and have found it, so far, most successful. In four of my cases, where no other treatment had been tried, it succeeded, in fourteen days, in stopping the discharge, and all inconvenience (chordee, &c.), with no return of any of the symptoms. In all the other cases, where other treatment had been followed, the result was just as favourable, only extending over a period of three weeks. In none of my cases did I use any injection, except where a discharge had persisted over four months, and in another case of long standing gleet, giving the tincture in fifteen-minim doses, and an injection of the same, ten minims to the ounce. It stopped the discharge in three weeks, and there has been no return for a month. I had treated this latter case before with sandal-wood and an injection of zinc, without any beneficial result. I had used the iodide of potassium, and also copaiba; and, after making certain that there was no stricture, I tried the medicated bougie, but did not succeed in stopping the gleet, or the inconvenience of constantly passing urine, until, in desperation, I used this preparation. This patient had been under treatment before he came to me, and had been told that a sea-voyage, with return to general health, was the only thing likely to do good. (Mr. Z. Mennell, London, British Med. Journal, Feb. 14, p. 327.)

Syphilitic Condylomata.—*Salicylic Acid and Boracic Acid.*—These are both very good remedies. Formerly, we often used to remove the larger warts of that kind with the scissors, and then cauterise the wound. But since we have employed the following powder, which is dusted three times a day over the new growths, we have never had occasion to have recourse to any other remedy:—℞. Hydrarg. subchloridi, gr. xxx; acid. boracic., gr. xv; acid. salicyl., gr. v. M. Under the use of this powder the condylomata almost visibly dwindle away. (Ed. Philadelphia Med. Reporter, Practitioner, Dec., p. 464.)

[We can confirm this, but have used equal parts of calomel and compound tragacanth powder. If operation is necessary, a scraper should be used as much as possible, the scissors only when the condylomata are too large and firm for removal by the scoop or scraper.—Ed. *Retrospect.*]

AFFECTIONS OF THE EYE AND EAR.

Amblyopia from Vapour of Bisulphide of Carbon and Chloride of Sulphur.—I have recently met with a case of amblyopia in a young man, aged 20, who had been engaged in the "curing-house" for about nine or ten months. After about three or four months of the work his health began to fail; he felt great weakness in all his limbs, and a liability to nausea; for some weeks before admission he had severe headache, and about three weeks before admission his sight became, apparently suddenly, so bad that he could not see people on the pavement; vision grew worse, and when admitted vision was $\frac{5}{70}$ with each eye, and 12 J. He stated that he saw worst in bright daylight; the fields of vision were not curtailed. After admission, improvement commenced, and on the nineteenth day vision was $\frac{20}{20}$ on the right, and $\frac{10}{70}$ on the left; the optic discs were pale, and there was a filmy haze over them; the neighbouring retina showed the "watered silk" appearance. He returned to work in the india-rubber works, but not in the curing-house, on leaving the hospital on August 25th. On October 6th sight was a good deal improved (vision was $\frac{20}{50}$ and 6 J); there was a large and ill-defined scotoma for red, a little to the outer side of the centre of each field; the scotomata were quite symmetrical. The optic discs were paler and clearer. He was well and strong, and more cheerful. In the manufacture of certain kinds of india-rubber, the material was "cured," vulcanised, by being passed through a bath consisting of bisulphide of carbon (thirty-two parts) and chloride of sulphur (one part); a strong vapour arose during the process, and the work was believed by the men to be unhealthy. Dr. Ernest Fuchs, Prof. of Ophthalmology in the University of Liége, who had happened to see the above case, communicated to me the notes of a similar case. The patient was a young girl, aged 23; she was pale, thin, and weak; the muscles of the thenar eminence, and the interossei muscles, were atrophied; sight was very imperfect; right vision was $\frac{2}{60}$, left $\frac{1}{60}$; there was slight neuritis of each eye; the optic discs were pale and hazy, but not swollen. The patient stated that since she began working with the bisulphide of carbon bath she had suffered from weakness of the limbs, coldness, formication, head-ache, giddiness, and loss of appetite. She was admitted into the hospital, and slowly improved under treatment with strychnine administered hypodermically. About eight weeks after admission, it was noted that there was a small well-defined central scotoma for red in each eye. Sixteen weeks after admission sight had much improved, vision was $\frac{5}{18}$. About seven months after admission, the scotoma had disappeared, and right vision was $\frac{5}{12}$, left $\frac{5}{9}$. Eight months and a half after admission, the optic discs were paler than normal, but sharply defined; the atrophy of the interossei and thumb-muscles had disappeared; vision had improved; right vision $\frac{5}{9}$, left $\frac{5}{6}$. A similar case has been recorded by Dr. Alexander Bruce. In this case the man lost his sight rapidly after an unusually prolonged exposure to the fumes, but there had been previously, for some months, great nervous and muscular weakness; there were no ophthalmoscopic changes, and the patient entirely recovered in about four months. Dr. Bruce had also recorded two other cases of poisoning by bisulphide of carbon, in which the same weakness and depression were noticed, but not amblyopia. The cases were of great interest, as illustrating in a new way the peculiar liability of the optic nerves, as compared with other nerves of special sense, to be damaged by influences which depressed the whole nervous system. (Mr. E. Nettleship, St. Thomas's Hospital, Medical Times, Oct. 25, p. 588.)

COCAINE AS A LOCAL ANÆSTHETIC IN OPHTHALMIC PRACTICE.—So long ago as 1860, Dr. Albert Niemann, of Goslar, was the first to give the name of cocaine to the alkaloid extracted from the leaves of the *Erythroxylon Coca.* Pure cocaine occurs in the form of colourless transparent prisms, without smell, but with a slight bitter taste. The hydrochlorate or muriate of cocaine, with which most of the experiments have been made, is a white crystalline powder, which is sparingly soluble in water, but readily soluble in alcohol, ether, oil, and vaseline. In the case of the eye, a two per cent. aqueous solution of the drug is sufficient for all practical purposes, and acts almost as well as a solution of double that strength; the throat, however, requires a stronger solution, and Dr. Jelinek recommends a dilute alcoholic solution of ten or twenty per cent. For the former strength the proportion of alcohol to water should be as one to four; for the latter as two to three. When one drop of a four per cent. solution (and the same is true of much weaker solutions) is introduced into the eye, a slight burning sensation is felt. A minute or two later, the cornea and conjunctiva become anæsthetic, and lose all reflex excitability; the finger can be passed over them, and the conjunctiva taken up with the forceps, without causing any unpleasant sensations. At the same time there is a feeling of tension in the lids, and the eye seems protruded, as in a case of Graves's disease. The conjunctiva becomes exceedingly pale. These phenomena last for about ten minutes, and gradually disappear. In from ten to fifteen minutes the pupil begins to dilate, and there is slight paresis of accommodation. Mydriasis is never present to any great degree, but it lasts for some hours after the anæsthesia has disappeared. Dr. Königstein thinks that these effects are mainly due to the influence of cocaine upon the sympathetic; and the facts that the vessels generally, including, probably, those of the retina, are contracted by it, that the pupil is dilated, and the eye protruded, seem to give some warrant for this belief. (Ed. Med. Times.)

With regard to the *clinical uses of cocaine,* it serves the purpose both of a local anæsthetic and a local anodyne. It may be applied in all cases attended with pain in the eye and photophobia, in painful erosions, phlyctenulæ, injuries, &c.; and its power of causing contraction of the vessels seems to indicate it in cases of inflammatory congestion both of the conjunctiva and deeper structures. Professor v. Reuss even recommends it as a mydriatic in glaucoma. As a local anæsthetic, preparatory to operation, it has been used in many operations on the conjunctiva and cornea, in removing foreign bodies from the latter and in tattooing cicatrices upon it, in touching it with caustics, &c. As to its reliability in deeper operations, as iridectomy, operations for cataract, for squint, and on the skin of the eyelids, the evidence is conflicting; but Dr. Köller has pointed out the importance of applying it with systematic thoroughness, and probably some of the failures that have been recorded may be traced to a too ineffectual instillation or to a too hasty operation. Dr. Königstein indeed states that even the surfaces of the eyelids entirely lose their sensitiveness when cocaine hydrochlorate is applied in the solid form. For most operations it appears to be sufficient to introduce a drop of a two per cent. solution at intervals of two minutes. The maximum effect, according to Mr. Lucien Howe, is reached in fifteen minutes, but earlier according to other observers. (Editor of Medical Times and Gazette, Nov. 29, p. 751.)

Cocaine.—The following are the effects of instillation of a 2 per cent. solution of the chloride of cocaine into the human eye:—(1) One or two minutes after introducing a few drops of the solution, the cornea and conjunctiva were rendered completely insensible; he could seize the conjunctiva with hooked tweezers, and exert considerable pressure on the cornea, and the patient felt nothing, nor were there any reflex movements. The anæsthesia lasted from seven to ten minutes, and disappeared gradually. (2) Simultaneously with the anæsthesia, considerable dilatation of the palpebral orifice occurred, which he explained by the absence of the sources of irritation which otherwise affect the cornea and conjunctiva. (3) The ocular and palpebral conjunctiva became anæmic. (4) Fifteen minutes after introduction, mydriasis set in. It was never present in any great degree; after an hour it decreased considerably, and totally disappeared some hours later. During this period the pupil re-acted quickly. (5) Paresis of accommodation set in together with the mydriasis, and also disappeared with it. (6) When the application of the above-mentioned solution of cocaine chloride was continued, and repeated every five minutes, the anæsthesia of the cornea lasted from fifteen to twenty minutes, and the deeper parts of the eyeball became anæsthetic, its sensibility being much diminished on pressure. (7) The application of cocaine never produced any signs of irritation. (Dr. Karl Köller, p. 361.)

About ten years ago attention was called to the leaves of the erythroxylon coca, and considerable interest manifested in their real or supposed effects. The proper use of cocaine, before operations involving the conjunctiva, cornea, or iris, lessens the pain of the patient, and thus facilitates the manipulations of the operator, without producing any irritation or serious inconvenience. Two drops of a ·02 per cent. solution is sufficient to produce a noticeable difference in the size of the pupil, but at least twice that quantity is the minimum which will effect the sensibility materially. If a 2 per cent. solution be used, the effect at the end of about fifteen minutes does not differ materially from that which follows the use of the same quantity of a 4 or 5 per cent. solution. Certainly, the intensity of the effect in the latter case is not twice as great as in the first. From two to six minutes after a full dose, some anæsthesia of the conjunctiva appears. The maximum effect is reached in about fifteen minutes, and in thirty or forty minutes commences to subside. When the cocaine has been once applied. subsequent applications apparently act with more rapidity than at first. When the dose is sufficient to produce a well-marked anæsthetic effect, this precedes the dilatation of the pupil. The latter, however, continues for some hours after the former has disappeared. I believe the future of cocaine to equal that of eserine. In cases of intolerance of light it acts like magic. Its action on the sensitive nerves of the iris must render it valuable to the physiologist. (Mr. Lucien Howe, New York, Lancet, Nov. 22, p. 911.)

Cocaine.—Some recent trials with this very remarkable drug seem to lead to the following conclusions:—(1) Hydrochlorate of cocaine is of considerable value as a local anæsthetic in the following cases—(*a*) in diseases of the cornea where photophobia is a prominent symptom; (*b*) for the removal of foreign bodies from the cornea; (*c*) in all operations affecting the cornea and conjunctiva only; (*d*) in cases of cataract extraction, where it is undesirable to give ether or chloroform. (2) It is of little or no value—*(a)* in operations involving the skin; (*b*) in operations on eyes suffering from glaucoma, even if considered advisable. (Mr. G. Hartridge, p. 363.)

The author had experimented with a 2 per cent. and a 4 per cent. solution on himself and about twenty-five others, and found that anæsthesia of the cornea and conjunctiva was produced by a drop instilled into the conjunctival sac; that this anæsthesia came on almost immediately after application, and lasted only about five or six minutes, when it gradually but rapidly faded away. So far as his experience went, the drug was of no appreciable assistance in operations, the anæsthesia being too imperfect. In most cases, it produced slight paresis of accommodation, with partial dilatation of the pupil for about half an hour, followed by contraction of the pupil and spasm of accommodation, which again gave way to the normal condition of parts in about one and a half or two hours. He had extracted cataract, done iridectomy and some minor operations, with its aid, but found no appreciable benefit except in the most trivial cases. The anæsthesia was very transitory, and it was therefore necessary, in order to obtain the best results, to use the drug very shortly before operating. (Mr. Arthur Benson, Dublin, Medical Times, Oct. 25, p. 589.)

EYEBALL.—*Action of the External Muscles on the Eyeball.*—The action of the external muscles on the eyeball may be called the coarse adjustment of the eye in contradistinction to the fine adjustment by the mechanism within the eye itself. The antero-posterior diameter of the eye may be lengthened as well as shortened. In all animals, birds, and fish, the muscles which in man are called oblique are really transverse. The superior in all has its special nerve, the fourth; while the external rectus in like manner is supplied almost exclusively by the sixth. Sir Charles Bell has shown that with regard to opposing muscles when one acts the other relaxes, or loses its tone, so that they act in concert although not supplied by the same nerve. Now, we have in the eye the external and internal rectus, which taken together have a double supply of motive nervous power; the one for the ordinary motions of the eye, the other to regulate the degree of divergence from the usual axis of vision. In like manner the two oblique or transverse muscles taken together, having a double nervous motor supply, must have a double function. The first, that of rolling the eye so as to enable it to follow a revolving object sufficiently long to produce distinct vision; the other has not been generally acknowledged. Considering the disposition of the oblique or transverse muscles in all classes of animals, the action must be (when they act together) to compress the eye literally, and then slightly to alter its antero-posterior diameter. In dissecting the eyes of animals I have found a thick cushion of fat on the inner side of the eye, which would afford a slight resistance and compress the inner surface of the eye. (Mr. Henry Lee, p. 359.)

GLAUCOMA.—*Treatment.*—In concluding an interesting paper on the general aspect of glaucoma, the author writes as to its treatment:—I have confidence only in a *large iridectomy*, the corneal section made far back, so that the periphery of the muscle may be well removed, and without allowing any prolapse. The sooner the operation is done the better; the amount of sight which the patient has retained up to the operation in *chronic* glaucoma will usually be permanent, and may improve slightly for some months. In *acute* cases its results are most brilliant; the abnormal symptoms disappear, and sight is restored more or less completely, according to the amount and duration of the abnormal pressure. Even though blind, the eye may almost perfectly recover after early iridectomy. Of *malignant* glaucoma I have no experience, and in the severe variety designated *hemorrhagic*, where the sclerosed vessels are liable to bleed into the vitreous or aqueous, and which follows retinitis apoplectica, I recommend no operation, as severe hemorrhage or detachment of the retina might ensue, with sudden complete blindness. (Mr. F. Richardson Cross, Bristol Med.-Chirurgical Journal, Sep. p. 145.)

JEQUIRITY.—*Effects of Jequirity upon the Conjunctiva in Health and in Disease.*—Since Wecker, in 1882, made it known in Europe, jequirity (the seeds of the *Abrus precatorius*—Brazil) has attracted the attention of ophthalmologists in all parts of the world. If the seeds are macerated in water for a day or two, then ground or crushed, and an infusion made and applied to the conjunctiva of the eyelids, it will produce no immediate result, but in from four to six hours a feeling of heat and tingling in the eyelids begins. In about twelve hours the lids have become markedly swollen, and, if they are everted, it will be seen that a fibrinous exudation is forming on the conjunctiva. This continues to increase in thickness for about twenty-four hours, when it resembles a croupous membrane. It can be readily raised off the conjunctiva, to which it is not firmly adherent. The conjunctiva under it is not bleeding, but rather pale and succulent. The membrane, if removed, will reform for a variable length of time, generally about two days, after which the inflammation subsides rapidly. During the first twenty-four hours the patient complains of considerable discomfort, in some cases amounting to intense pain in the eyes, headache, sickness of stomach, furred tongue, malaise, and general feverishness, with a considerable rise of temperature and pulse. These symptoms subside as the membrane forms, and disappear with its separation. A single application will produce a comparatively mild attack; repeated applications, at short intervals, produce a more severe attack; and if repeated applications are made on consecutive days, the duration of the attack can be prolonged for weeks, with the continuous formation of fresh membranes on the conjunctiva, accompanied by an abundant watery purulent discharge. The strength of the infusion used has also an influence on the intensity of the resulting ophthalmia. If the applications are continued for a certain time—usually several weeks—the effect gradually diminishes, until the conjunctiva ceases entirely to be influenced by the infusion. After a variable period of rest the conjunctiva will again respond to the jequirity. If the eye has previously suffered from granular ophthalmia, especially if it be the dry, hard, chronic type of the affection, it is found that, as the jequirity inflammation passes off, the conjunctiva assumes a more normal appearance than before, and, after a certain number of applications, the granular ophthalmia has disappeared. To obtain this result in cases of old-standing ophthalmia, several months are usually required. It was to supersede the old and dangerous method of treatment by inoculation with gonorrhœal pus, that jequirity was first put forward. Since then its sphere of action has been greatly enlarged. (Mr. Arthur H. Benson, Ophth. Surg. to City of Dublin Hospital, Dublin Med. Journal, Oct. p. 296.)

OPHTHALMIA NEONATORUM.—*Prevention of.*—Dr. Garrigues calls attention to the value of Credé's method of treatment, which in brief consists in washing the outer surface of the eyelids with plain water, separating them slightly, and letting a single drop of a two per cent. solution of nitrate of silver fall from a glass-rod on the cornea. No after-treatment is used. In 1882 Garrigues introduced Credé's treatment into his service at the New York Maternity Hospital, since which time 351 children have been thus treated, and not a single one was affected. He makes this application immediately after the cord has been severed, which is not done before the pulsation in it has ceased. During the subsequent ablution great care is taken that no foreign substance enters the eyes. The results obtained in lying-in hospitals by this method are so striking that there cannot be any doubt about the advisability, nay, the duty of adopting it in all such institutions. (Dr. Henry J. Garrigues, American Journal of Medical Science, Oct., p. 443.)

OTORRHŒA.—*Its Treatment by Dry Powders.*—My late lamented and much respected colleague at the Birmingham Ear and Throat Infirmary (Dr. Hunt), some time ago wrote a very elaborate and original paper on this subject. The plan he adopted and therein described was to cleanse the ear and well dry it with cotton-wool; then, with an inflator, to introduce into the meatus a little of whatever powder he considered most suitable to the particular case under treatment; he then simply placed, loosely and lightly, a small quantity of cotton-wool in the meatus to prevent the powder from falling out, and this was cleared out every other day and renewed. Now, this system of treating otorrhœa has been adopted and carried out by myself since, and even before that period, and has proved serviceable and very useful in my hands, and it is also perfectly free from danger; but there is a practice followed by some surgeons, of stuffing the meatus with various powerfully astringent powders, and closely packing them with cotton-wool, ramming them down and leaving them there for a long period, which I consider fraught with the greatest danger. During the last year, I have had three sad illustrations of the serious results arising therefrom, where the discharges, failing to find a free exit externally, have extended to the mastoid cells, producing severe inflammation, caries and necrosis of bone, burrowing onwards, carrying destruction in its course, and at length ulcerating through the dura mater to the brain, ending in cerebral abscess and death. The powders generally employed are boracic acid, tannic acid, talc, alum, zinc, copper, lead, iron, iron-alum, &c. (Dr. Charles Warden, Birmingham, British Medical Journal, Nov. 15, p. 961.)

Relation of Certain Diseases of the Eye to Gout.—It has been shown to be probable that there are many different forms of inflammation of the eye, or of parts of it, which are in connexion with gout. Some of these are very peculiar and specialised types of disease, and have already been accorded distinctive clinical names; others quite as distinct are not as yet so well known, and of others we may say that they are to be distinguished from other inflammations of the same structures not so much by their features as by their cause. Of all we may assert that they are infrequent; some, if we confine ourselves to well-marked types, are distinctly rare. We have divided these different affections into two groups:—(1) those which go with acquired, humoral, or renal gout; and (2) those which depend upon the inheritance of structures damaged, or at any rate specialised, by gout in predecessors. It is needless to repeat that in almost all cases of acquired gout there is inheritance also, and that in many in which the disease is chiefly caused by inheritance some modification and increase may have been derived from personal habits. Still, the difference between the two classes of affections is very marked. In the one, attacks of a transitory nature are the rule, and these attacks are often acute and attended by much pain. In the second group, although a tendency to temporary recovery and recurrence is often observed, yet there is a great proneness to chronicity and persistence. The invasion is often insidious, but the disease is usually in the end destructive. In the former group we have placed hot eye, sclerotitis, recurrent iritis, and retinitis hemorrhagica. All these are diseases of adult life. In the second group we have insidious disorganising iritis, relapsing cyclitis, certain forms of soft cataract, and perhaps some of primary optic neuritis. Not only are there clearly marked clinical differences between the two classes of affections, but the difference in treatment is equally marked. In the first the well-known measures against gout must be taken—a restricted regimen, alkalies, colchicum, and aconite, and liberal counter-irritation. In the second we must use tonics, and, although counter-irritants are here also often valuable, we cannot trust to any measure as really curative short of complete change of climate. (Mr. Jonathan Hutchinson, Lancet, Nov. 29, p. 947.)

Irritable Eyes, Quiet Gout.—Many cases of irritable hyperæsthetic and easily tired eyes in young persons are in association with inherited gout. I feel sure that in some of these cases we are in the present day in danger of pushing the recommendation of spectacles to an excess. Some slight degree of hypermetropia may be detected, and it is assumed to explain the irritability of the eye. Yet glasses do no good, and, in fact, only increase the irritation. In such cases, very often, the real malady is inherited gout. (Mr. Hutchinson, p. 337.)

Trephining in Mastoid and Tympanic Disease.—The operation of trephining for mastoid disease is a fairly successful one, and on the other hand, that, from the expectant treatment in suppurative inflammation, there is little to look forward to but a fatal result. That the operation should be practised early is a self-evident fact; it is useless when pyæmia, meningitis, or phlebitis of the sinuses has appeared, although the first cerebral manifestations should not intimidate the surgeon from operating, and I doubt not but that good service will be done towards the patient by his attendant who advises operation even where no bone disease existed, but when the discharge from the tympanum has lasted for *a lengthened period*, and has not yielded to other treatment, such as syringing and enlarging the opening of the membrana tympani if necessary. A well-accomplished operation will always give free vent to pus when existing, and prevent it passing to the brain through some of the numerous channels I have recorded, and will thus save the patient. Unless, indeed, the suppuration is comparatively superficial, or discharging through a fistulous opening, I would not select to operate over the mastoid process; there one cannot remove the entire portion of the bone, on account of the proximity of the lateral sinus, and so cannot expose the dura mater, to do which I hold is very essential. The site I would always select for operation, with the exceptions as above named, would be such as to place the lower border of the trephine on a level with the external auditory meatus, and anterior to a line dividing vertically the mastoid process. By adopting this course there will be no danger of wounding the lateral sinus, the tympanum and mastoid cells will be opened, giving full exit for discharge, the dura mater will be exposed, and, should pus exist between it and the cranium, there will be ample freedom for its escape. (Dr. W. I. Wheeler, p. 366.)

MIDWIFERY, AND DISEASES OF WOMEN, ETC.

Chronic Disease of the Uterine Appendages.—A class of cases wandering about after relief are those upon whom I have operated in large numbers, and have found chronic and incurable disease of the appendages in the form of chronic inflammation of the ovary, chronic inflammation and occlusion of the tubes, these latter being occluded and distended by serum, pus, or blood. You will ask me how this disease may be recognised, and I have to answer that their diagnosis cannot now, and probably never will, be a matter of certainty. They begin generally in some acute attack of pelvic inflammation, from which the patient dates all her troubles; and when you get such a distinct history you ought at once to be on your guard. This illness may have arisen, for instance, in a closely confined and confessed attack of gonorrhœa; or it may be an attack of pelvic perimetritis, occurring after a miscarriage or a labour; or it may have arisen in one of the exanthematic fevers or a simple cold. In some of the cases, however, you get no clear starting-point in the history, and then the diagnosis is generally more difficult. The symptoms are usually precise enough, yet, unfortunately, none of them are peculiar to the condition of which we are speaking. Pain is, of course, a leading feature; indeed, it is rarely without pain as a chief incentive that patients consult us at all. This pain is complained of as being constantly present, greatly aggravated by walking, and becoming intense for some hours or days before the period, and lasting throughout its continuance. Menstruation is usually too frequent and too profuse. In the great majority of the cases the uterus is somewhat fixed, and a tender mass can be felt on one or other side of it, perhaps on both sides, and behind it. When the tubes and ovaries are down behind the uterus and adherent there—and this is by far the most common condition—the diagnosis to a beginner is very difficult. Nothing looks more certain and easy than the diagnosis of subinvolution and retroflexion, and without further consideration a pessary is introduced, with no other result than that of aggravating the patient's sufferings—in fact, I may say that at this point her troubles will begin to be serious, and she will wander about to collect various kinds of instruments from various practitioners, until she ends either a helpless and hopeless invalid or dies from an attack of acute peritonitis. In some of my most marked and most successful cases there have been no physical signs whatever, and I have felt myself reluctantly justified in interfering only by the manifest reality of the patient's sufferings. (Mr. Lawson Tait, Birmingham, Canada Med. and Surg. Journal, Sept. p. 78.)

Extirpation of the Uterus by the Vaginal Method.—Dr. Wallace, of Liverpool, in recording a successful case, gives the following details of the operation. Ether was administered, and the patient placed in the lithotomy position. The vagina, previously well purified, was rapidly dilated. The diseased mass (epithelioma of the cervix) was then exposed and seized with vulsellum forceps, and the cervix severed from its connections with the vagina through healthy mucous membrane; after which, to gain room, the diseased portion was removed by a bistoury. A large vessel was opened, and caught by compression forceps. The Douglas's sac was opened; the connection between the bladder and uterus was separated by the finger as far as the peritoneum. Two fingers of the left hand were passed into the peritoneal cavity behind the uterus, and the fundus was retroverted, and easily dragged down into the vagina. Two elastic ligatures were now applied through an opening in the peritoneum between the uterus and the bladder, at a point midway between both broad ligaments, and firmly tied one round each, and secured from slipping by hare-lip pins, the points of which were then snipped off, and the uterus was then severed from its connections, and removed completely. The compression forceps and hare-lip pins were left in the vagina, one in the right and one in the left fornix. The vaginal mucous membrane was brought together by two wire sutures. The vagina was then washed out with a one in forty solution of carbolic acid. Salicylic cream was then smeared all over its walls, and eucalyptic ointment, powdered with iodoform, to the size of a filbert, was left at the top of the vagina to act as an antiseptic dressing. Externally, iodoformised absorbent cotton was placed over the vulva. The patient was then placed in bed arranged as an inclined plane, so as to favour drainage. (Dr. J. Wallace, British Medical Journal, Dec. 27, p. 1278.)

HEMORRHAGIC ENDOMETRITIS.—*Treatment by Erasion.*—In the treatment of hemorrhagic or fungoid endometritis, whether it originates from an ill-treated abortion or otherwise, I think there is nothing so good as careful removal of the superabundant tissues by curetting. To do this thoroughly, however, you need to dilate the cervix, as you cannot get a suitable instrument through the undilated os internum. The danger of dilatation is no doubt real, but it is greatly lessened by the use of careful antiseptic precautions, such as thoroughly washing out the uterus and vagina before and after operation. Its dangers are more than compensated for, I think, by the thoroughness and safety of operation secured thereby. A steel curette should be used. Such instruments as Munde's dull-wire curette are of no use whatever for such cases. Only the unhealthy mucous membrane comes away. The operator at once knows by the feel, and by a peculiar grating sensation communicated to his hand by the instrument, when he has reached healthy tissue. (Dr. Angus Macdonald, Edinburgh Medical Journal, Nov., p. 411.)

HYDRORRHŒA GRAVIDARUM.—Dr. Macdougall, of Carlisle, publishes notes of seven cases of this rare and obscure condition. He believes the continuous bloody-watery discharge, which is its leading symptom, to be due to a chronic catarrhal decidual endometritis. In the very large majority of cases, beyond rest and the maintenance of the recumbent posture, very little for the removal of the condition is possible. If the patient's health is seriously deteriorated by the continual drain, the uterus should be emptied in the ordinary manner. (Dr. J. A. Macdougall, p. 406.)

LABOUR WITH KYPHOTIC PELVIS, AND RELATIVE SHORTNESS OF CORD.—On May 18, 1884, I was sent for by Mr. H. J. Sequeira to see, with him, Mrs. C., aged 38, pregnant for the second time, the first child having been born dead, prematurely, she thought at about eight months' pregnancy, without assistance. Labour pains had begun on May 17, at about 6 p.m. At about 1 p.m., Mr. Sequeira found the os uteri fully dilated, and ruptured the membranes, but as, in spite of strong uterine action, the head did not advance, he sent for me. I arrived about 3.30 p.m. There was lumbar kyphosis. The head was presenting, but seemed arrested at the brim in a state of extreme flexion, the posterior fontanelle being comparatively low down, the right limb of the lambdoidal suture running to the middle of the symphysis. The sagittal suture ran backwards and slightly to the right, dividing the presenting part of the head into two parts, which, as nearly as could be ascertained, were equal. The anterior fontanelle was too high up to be felt. The foreeps was applied, and Mr. Sequeira and I alternately made persevering attempts to deliver; but we could not produce any advance of the head. It was, therefore, perforated, and the cephalotribe applied, by which delivery was easily accomplished. The right blade of the instrument was found to have seized the head above the right eye, the left behind the left ear. After the head had been extracted, difficulty was met with in the delivery of the body. Direct traction was ineffectual, and the body was, therefore, drawn backwards in order to assist the disengagement of the anterior shoulder, at the same time being held loosely so as to be free to turn. It then spontaneously and quickly rotated through half a circle, so as to bring the face to the front, and then during extraction slowly rotated through a quarter circle further, so as to bring the face looking to the left thigh of the mother. As the body emerged, the cause of this rotation became apparent in the cord, which was twisted round the body of the child, and tight. An internal examination of the pelvis showed that it was of the shape usual in lumbar kyphosis. The sacrum was straighter than natural, and the sacral promontory did not project as usual. The brim was, therefore, rounder than usual, and the conjugate seemed to slightly exceed the transverse diameter; each measurement was more than 4½ inches, but, as they were only measured with the hand, the exact excess over 4½ inches could not be correctly estimated. The outlet was contracted, the distance between the tubera ischii being between 3¼ and 3½ inches, and from the pubes to the coccyx about the same. The extent to which the latter measurement might have been enlarged by backward movement of the coccyx could not be estimated. The child was a very large one. (Dr. G. Ernest Herman, Medical Times, Oct. 25, p. 573.)

LACERATION OF THE CERVIX UTERI.—*Trachélo-Raphé, or Emmet's Operation.*—This is an operation for the repair of a traumatic laceration of the cervix uteri. It has been the subject of a somewhat acrid controversy, and, not much to our credit, some of our leading gynæcologists in this country have passed a severe condemnation upon it, without ever having given it a trial, or even, I will venture to assert, having seen it done, or witnessed its results. This particular operation has been brought before the profession, and strongly advocated, by some of the most eminent of the American gynæcologists, men of world-wide reputation like Emmet, Thomas, and Goodell, whose carefully considered opinions ought to carry much weight, and whose views certainly merit the most respectful consideration. If after fair trial we find ourselves obliged to differ from them, no one, these authorities least of all I am sure, would have a word to say; but that is hardly the position which has been taken in this country. I certainly am no enthusiast on this subject, but I have paid a good deal of attention to it, and I am quite satisfied that there are a certain number of cases in which laceration of the cervix has a very important influence in the causation of uterine disease, and in which no permanent cure is possible without operation. Of course lacerations of the cervix during labour must always have occurred, and the reason why their importance had not been fully recognised is that they are difficult to detect by the finger alone, especially when of the kind that lead to secondary uterine disease, that is, when they are uncicatrised, and accompanied by ectropion and eversion of the cervix. When cicatrised they are often easily enough made out by digital examination only, but then they are of comparatively little clinical importance. The ordinary cylindrical speculum, so generally used by us, instead of assisting us to detect the lesion, really obscures it and leads us astray, in a way I shall demonstrate to you; and it is only by the use of the duck-bill speculum that the true state of the cervix can be satisfactorily made out. I do not contend that the duck-bill speculum should be solely used, to the exclusion of the ordinary cylindrical speculum; but I am quite certain that it should be far more generally and regularly used than it is, for there are certain important uterine lesions which cannot possibly be made out and treated without it. Were it not, indeed, that it requires the aid of a second person, which is often not to be had in practical work, it would readily answer all purposes; and yet I am sure that nine men out of ten who practise gynæcology are quite unfamiliar with it, and have never taken the pains to learn how to use it. Now when a cervix has been lacerated bi-laterally—and this is the general form of the lesion—it is split in two, somewhat like a bishop's mitre. If examined digitally shortly after labour, you would probably readily recognise this state. If, however, as is often the case, it gives rise to secondary results, the bifid condition is not easily made out by the finger alone, for the separate portions of the cervix become turgid, thickened, hyperplastic, and often of varying size. The uterus itself becomes bulky, often retro- or anteverted, the cervix presses on the pelvic floor, and its lining membrane, thus constantly irritated, becomes florid, granular, and abraded, often everted, the condition so generally but erroneously described as "ulcerated." The lips of the lacerated cervix, thus altered, become rolled out, just like the head of a piece of celery prepared for table. If, now, a cylindrical speculum is used, its end impinges on the partially everted cervix, and through it is seen the granular mucous membrane, simulating ulceration, but not the edges of the laceration. When a duck bill speculum is used in such conditions, its end lies behind the posterior lip of the cervix, and, with a pair of tenacula, you can quite easily bring the separated surfaces together, the edges temporarily approximating, and the cervix for the moment looking like a healthy virgin organ, all appearance of erosion having disappeared. Seeing this done is quite a revelation to men who have worked at uterine disease for long, and yet many of you have often seen me demonstrate it to you in the wards. One thing may be confidently asserted, that is, that, unless the practitioner familiarises himself with this method of examination, he may read about lacerations of the cervix, but he can never realise their frequency and importance, and "*a fortiori*" he can never satisfactorily treat a typical case of uterine disease caused by them. Relying on the appearance of the granular and eroded cervix as seen through the cylindrical speculum, he will treat it for months or years as a case of "ulceration," that comfortable word which has so long given satisfaction to patient and practitioner, and by the application of nitrate of silver, carbolic acid, glycerine pledgets, hot irrigations, and the like, he will almost certainly give temporary relief, yet as certainly the relief will prove transient, and, when the patient resumes her ordinary life, all her old symptoms will recur, and she will soon be as bad as ever. It is such temporary amelioration of the patient in these cases under local medication, that is so apt to deceive, and is one of the causes which prevent their true nature being properly appreciated. If in an appropriate case, such as that which forms the basis of these remarks, Emmet's operation is successfully performed, the vivified edges of the torn cervix are brought together and closely united. Now, on vaginal examination, the cervix has a totally different feeling. The mitre-like split, with its florid-looking everted internal lining membrane, has disappeared, and the cervix feels smooth, and like a healthy virgin structure, while, looked at through the speculum, it is covered with a smooth pink mucous membrane, without any of the eroded or "ulcerated" surface formerly seen. (Dr. W. S. Playfair, King's College, London, Medical Times, March 14, p. 340.)

Emmet's Operation for Laceration of the Cervix Uteri.—The conditions that seem to me to warrant this procedure are deep cervical tears with eversion and hypertrophy of one or of both lips, accompanied with menorrhagia at the periods, and with leucorrhœa between times. In addition, there is, besides, usually backache and sometimes uterine enlargement. Whether the latter is in any way related to the cervical condition, or is part and parcel of the general effects of the severe labour which caused subinvolution of the body and tear of the cervix, is, I think, doubtful. But that the cervical hypertrophy is caused by the tear is, in my opinion, beyond doubt. It is, moreover, seen to disappear slowly after the operation has been successfully performed, requiring many months, however, for its perfect accomplishment. Such cases presented the stock-in-trade of the now nearly entirely abandoned treatment of erosions of the cervix by lunar caustic. The irritated and hypertrophied mucous membrane was looked upon as an ulcer and treated accordingly, the result being to aggravate the irritation. We now, after appropriate preparatory treatment by rest, glycerine plug, and hot douche, propose to remove the redundant tissue and fold in the mucous membrane so as to exclude the cervical mucous membrane from the irritation of the acid vaginal secretion, and the cervix slowly returns to its normal condition. That Emmet's operation does not induce sterility, and that the cicatrices need not be expected to tear in a future pregnancy, was demonstrated at one time by a case, the operation on which has been already reported by me in a former paper on this subject. [Dr. Macdonald publishes brief notes of 5 cases operated upon during the year preceding, in four of which a complete cure was obtained.] (Dr. Angus Macdonald, Edin. Med. Journal, Nov. p. 407.)

PELVIC ANODYNE.—*Action of Conium and Bromide of Potassium on the Ovaries.*—As an example of a pelvic anodyne, with special reference to the ovaries, I know of none that can compare with conium, or, better still, with the alkaloid conia, used in the form of vaginal pessary. In all cases, whether neuralgic or inflammatory, in which the ovaries are the seat of pain, conia is, to my mind, quite a specific. No drug that I know of acts with equal certainty and success. I suppose we are all agreed that bromide of potassium exercises most powerful influence upon the ovaries. No drug, in my experience, can equal it in controlling ovarian mucorrhagia; it not only limits the flow in these particular cases, but it seems, also, to exercise a distinct and controlling influence upon ovulation itself; hence its value in checking ovarian mucorrhagia, so far as regards its too frequent periodicity, for it certainly increases the length of the menstrual interval; in other words, it controls too frequent menstruation, or, as I should say, too frequent ovulation. (Dr. Alfred Meadows, British Medical Journal, March 28, p. 648.)

Pessary.—*The Glycerine Pad Pessary.*—The pessary here depicted is identical in construction with that invented by Dr. Greenhalgh, and called the "air pad pessary." Pessaries inflated with either air, water, or padded with mocmain or other substances, after a short period invariably become useless, as air escapes, water evaporates, and padding becomes hard. This invention is intended to obviate these defects; the padded end is filled with glycerine, which always remains soft, and yet offers sufficient resistance to render the instrument effective. The pessaries are made by Messrs. Arnold and Sons, of West Smithfield. (Lancet, Oct. 25, p. 738.)

SONS LONDON
PATENT

Pregnancy.—*A Method of Diagnosis during the Early Months.*—The sign on which Professor Hegar comments (Annales de Gynécologie, Sept., 1884) is a peculiar softness, a certain subtileness, and a thinning of the lower segment of the uterus—i.e, of the part of the uterus which is immediately above the insertion of the sacral uterine ligaments. This condition can be easily verified, not only when the uterus is resistant, as is usual, but still more so when it is elastic and soft. Even in these cases it is possible, by depressing the lower part of the uterus, to distinguish it from the superior portions, and from the rigid cervix. The softness of this part is such that one might imagine that the cervix was simply in contact with a pelvic or abdominal tumour. We do not know what pathological condition of the womb can present such symptoms. The cause of this remarkable sign exists in the fact that the inferior segment of the uterus becomes during pregnancy the finest part, the softest, and the most elastic. It thence results that, in practising the rectal touch with abdominal palpitation, it is possible to feel between the fingers this portion of the uterus with the characters it presents. (Dr. F. Barnes, Medical Record, Dec., p. 537.)

Pruritus of Pregnancy.—Two remedies have seldom failed in my experience, even if diabetes be present; viz., bathing with very hot water, or with a cold saturated solution of boracic acid and ether. (Dr. R. Neale, British Medical Journal, Dec. 6, p. 1172.)

PUERPERAL SEPTICÆMIA.—*Iodoform Insufflation within the Uterus.*—In a paper read before the Obstetrical Society of Boston, April 12th, 1884, Dr. Boardman relates several cases of puerperal septicæmia treated by the insufflation of iodoform into the uterus and vagina. In one case, where intra-uterine injections of carbolic acid solution failed to arrest the septic process, beneficial effects were obtained by the employment of iodoform insufflation. In the remaining cases, six in number, intra-uterine injections of corrosive sublimate solution (1 in 2,000) always preceded the iodoform insufflation, and thus it appears somewhat doubtful whether the good results ascribed to the iodoform were not partly due to the injections of corrosive sublimate solution. The author, however, observed that it was only when the injections were followed by insufflation of iodoform that amelioration of the symptoms resulted. The quantity of iodoform the author recommends to be insufflated on each occasion is about two drachms, but his patients seldom required the treatment to be repeated more than two or three times. (Abstract by Dr. Walter, Medical Chronicle, Nov., p. 205.)

REMOVAL OF THE UTERINE APPENDAGES FOR INFLAMMATORY DISEASE BY ABDOMINAL SECTION.—I have now performed ninety-two exploratory operations, that is to say, cases in which I have opened the abdomen and done nothing more, and it was not until the very last case in which I did it, a few days ago, that I had a death. In this fatal case the patient was a broken-down old woman of sixty, who was nearly dead before the operation was performed, and who died probably more from the anæsthetic than anything else; and I think it, therefore, hardly fair to reckon even this one as a case of fatal exploratory operation; but even if it is so reckoned, surely a mortality of about one per cent. is not such as to justify the conclusion I have quoted from Dr. Alexander's paper, that "opening the abdominal cavity is the chief source of danger in all these operations." In regard to the relative merits of expectant and operative treatment in such cases, I would remark that even up to the point at which inflammation of the ovary has nearly secured its complete disorganisation, the functional process of ovulation goes on persistently, nay, it would seem almost as if, in the advanced stage of inflammation, that process increased or intensified the rapidity of the formation and dehiscence of the follicles. Again, when the Fallopian tubes are inflamed, the frequency and intensity of menstruation are almost inevitably increased, and the periodical turgescence of all the organs are much more marked under these circumstances than when there is no such disease present. This I have pointed out over and over again in discussing this question, and I now respectfully ask how can we secure rest for these organs so long as ovulation and menstruation go on. Dr.

Alexander seems to forget all this, and to imagine that the pelvis, when the uterine appendages are inflamed, can be dealt with like an inflamed knee-joint, in which, to secure rest, you have only to put the patient to bed and confine the limb in a splint. But we have no splint which will prevent the periodical recurring functions of the pelvic organs. If we had such a contrivance, then, I venture to say, for the treatment of chronic ovaritis the removal of the uterine appendages would become very exceptional. (Mr. Lawson Tait, Birmingham, Medical Press and Circular, Nov. 19, p. 433.)

Retro-Uterine Hæmatocele.—Dr. Paul Zweifel advocates more frequent interference with these effusions than has hitherto been considered good practice. It seems to us, however, that the facts he adduces do not strongly, if at all, support his contention. He advises incision per vaginam, under antiseptic precautions, followed by frequent washing out of the cavity in which the blood has been contained. He relates four cases of his own in which this practice was followed; three got well and one died. He quotes from other sources 24 cases treated by incision per vaginam, of which five died. In two of these cases death occurred by sudden collapse following the washing out which Dr. Zweifel recommends. As he thinks the washing out was not done in these cases in a proper manner, our author eliminates these two, and reckons, including his own, four deaths out of 26 cases, or a mortality of 15·3 per cent. In our view, however, the two omitted cases ought by no means to be lost sight of, for they prove that the washing out of such cavities is not a thing to be done with perfect confidence in its safety. Our own impression is that most cases do just as well without it. Dr. Zweifel then adduces a collection of 66 cases treated by puncture, with 10 deaths, or 15·1 per cent.; a result much the same as that gained by the practice of incision. Bearing in mind the fatal cases of injection, puncture seems to be the safer practice. Lastly, Dr. Zweifel gives for comparison a collection of 129 published cases treated on the expectant plan, with a mortality of 18·4 per cent. (Editor of Medical Times, Nov. 8, p. 659.)

Scarlet Fever in Pregnancy.—The author terminates a paper on this subject with the following conclusions. (1) Scarlet fever may attack the fœtus in utero. (2) A large proportion of children born with scarlet fever recover. (3) Scarlet fever of the new-born child has the same manifestations as in later life. (4) It may attack the woman during pregnancy, and also immediately after child-birth. (5) It is exceedingly fatal during pregnancy and parturition. (6) It rarely if ever attacks the parturient woman if she has had it previously. (7) It causes death by coma, exhaustion, or convulsions. (8) Being a self-limited disease, it is best treated by relieving dangerous symptoms, and in accordance with the rules of hygiene. (9) It only exceptionally occurs during the ages that women bear children, therefore the proportion of those liable to contract the disease during pregnancy and child-birth must necessarily be small. (10) Scarlet fever and septicæmia are distinct diseases, being unlike in many respects. (Dr. Leale, Philadelphia Medical News.)

HE "SPINY PELVIS" AND ITS OBSTETRIC CONSEQUENCES. — This means a pelvis which has projecting into its cavity, bony spines, nodules, or edges, and was first described by Kilian. These projections are found most commonly at the insertion of the psoas parvus, where there is sometimes a tubercle; along the pubic crest, which is occasionally a sharp ridge, or a spine; or along the sacro-iliac articulations or pubic symphysis, where there are sometimes little bony outgrowths. Dr. Hofmeier now describes a case of labour in which deformity of this kind was present. There was synostosis of the bodies of the last lumbar and first sacral vertebræ. From the sacral promontory, below the synostosis, a sharp ridge of bone jutted out towards the symphysis, forming with the sacrum an angle opening below. It narrowed the conjugate to three-and-a-half inches. The patient's first labour had been followed by the formation of a vesico-vaginal fistula. In the second, extraction of the child was with difficulty effected by turning, although premature labour had been brought on at the end of the thirty-sixth week. Death took place two-and-a-half hours after delivery, from eclampsia. It occurred to Dr. Hofmeier that it was remarkable, seeing that the bony ridge was behind, that the anterior part of the genital canal should have been injured instead of the posterior. Perforation of the posterior part of the vagina or cervix uteri, by pressure, is an accident of parturition of which little notice has been taken by systematic writers, Spiegelberg being almost the only writer who has given a detailed description of it. Dr. Hofmeier therefore examined carefully the posterior wall of the uterus and vagina, and found a cicatrix, with adhesions, in Douglas's pouch, about half an inch below the external os, a point just opposite to the site of the vesico-vaginal fistula. He also relates another case in his own practice, in which perforation of Douglas's pouch occurred, the patient recovering. The practical conclusion he draws is, that perforation of the genital canal on its posterior surface is probably much more frequent than is thought; but that commonly adhesive inflammation is set up, by which the injured part is shut off from the general peritoneal cavity, and hence the symptoms are slight, soon pass off, and therefore are often unnoticed. (Dr. M. Hofmeier. Medical Times, Nov. 8, p. 659.)

THE THIRD STAGE OF LABOUR.—*Practical Rules for its Treatment.* —The following are the most important points to attend to. Follow the contracting uterus, as it expels the child, and by pressure and friction make this contraction energetic and permanent. Never let it go, unless compelled to do so; and then always provide a substitute, the nurse, a friend, or even the patient herself. It is wrong to resign such an important function, simply to tie and divide the navel string. During a contraction, press the uterine walls together, and the entire organ towards the coccyx. When sudden flattening of the uterus shows that the placenta has been expelled from it, then by strong pressure downwards drive it out of the vagina. The placenta should not be shot out upon the bed or into a vessel held against the buttocks, since the membranes are thereby liable to be torn across, but it should be received in the hand at the vulva, and rotated so as to twist the membranes into a firm cord which is easily withdrawn, without, as a rule, leaving any portions behind. Should this accident, however, occur, I think it is less dangerous to leave them than to introduce the hand for their removal; but should they prove a cause of hemorrhage they must be taken away. I quite agree with Dohrn, Runge, and others, that beneficial as is the active method when properly employed, just so injurious is it when unskilfully carried out. The hasty and violent expression of the placenta from an imperfectly contracted or relaxed uterus is a frequent cause of retention of the membranes and portions of placenta, as well as of violent hemorrhage and fever. (Dr. W. J. Smyly, Dublin, British Medical Journal, Jan. 3, p. 10.)

A Point in the Management of the Third Stage of Labour.—There is one very important item in the treatment of the third stage of labour, namely, the advantage to be obtained by placing the patient on her back as soon as the second stage of labour is completed. In this position, any clots that had formed can more easily escape, whilst the attendant has more perfect control over the uterus. If slight frictions and gentle pressure over the fundus are insufficient to excite uterine contractions, the organ should be more firmly grasped, one hand being placed against the anterior wall, and the other against the posterior. By this means, both walls of the uterus would be pressed together; if downward pressure of the uterus were needed, it could be resorted to at the same time, and much more efficiently than if the patient had continued to lie on her side. (Dr. Walter, Manchester, British Medical Journal, Jan. 3, p. 10.)

UTERINE HEMORRHAGE.—*Alcoholic Injections.*—I have felt somewhat surprised that no notice has been taken of what appears to me the most rational mode of treatment, namely, the injection of brandy or whisky into the uterus. The great objection to the use of perchloride of iron (and I presume the same might be said of iron alum) is the formation of a clot, which afterwards breaks down, decomposes, and causes a disagreeable discharge for some time, while the injection of an alcoholic stimulant has the effect of at once reviving the patient, and is followed by no unpleasant consequences. I always carry an Indiarubber-ball with a long tube, and, after clearing the vagina of clots, inject about an ounce and-a-half or two ounces of whisky, with a small quantity of oil of turpentine, and keep up firm contraction by means of the left hand. I have heard of hot whisky being applied by means of a sponge, but on an emergency one has not always at hand the means of heating the spirit, and it appears to me to be unnecessary. I may mention that in every case I inject ergotine under the skin of the abdomen before the removal of the placenta. (Mr. A. H. F. Cameron, Liverpool, British Medical Journal, Oct. 11, p. 712.)

The Puff-Ball in Uterine Hemorrhage.—On the morning of June 19th, I was called to visit Mrs. F——, aged 26, mother of three children, about two and a half miles from my residence. On my arrival, I found her quite bloodless-looking, bathed in cold perspiration, and complaining of headache and giddiness. I learned, on inquiry, that she had had a miscarriage four weeks previously; and that, from that time until the present, hemorrhage from the womb had continued at intervals, but that. during the previous night, it had become alarming. On examination, per vaginam, I found the os uteri dilated, so as to admit the tip of my index-finger, the lips swollen and patulous. I ordered astringents (dilute sulphuric acid, with liquid extract of ergot, &c.) On my return, eight hours afterwards, I learned that the medicine had produced no effect. I then used astringent injections, and plugged the vagina; even this did not arrest the hemorrhage. The case was now looking very serious; nothing would remain on Mrs. F.'s stomach, not even cold water. I remembered asking, at a meeting of the North of Ireland Branch of the Association, when the subject of the puff-ball (brought under the notice of the profession by Dr. Thompson, of Omagh) was mentioned, if any member had tried this remedy in cases of uterine hemorrhage, and received a negative reply. The present case was one in which I determined to try this styptic. I had a large puff-ball in store; this I divided into two equal parts, and having turned the half I intended to use inside out, I tied some strong sewing-thread around it, having first saturated the thread in a weak solution of carbolic acid. I then introduced the puff-ball into the vagina, and, with a rectum-tube, passed it along the palmar surface of my left index-finger. My patient, in an exhausted state, was lying on her right side, so that I had to use my left hand. By this means I got the ball placed against the os; I next secured the thread to the thigh. From that time until my return next day, Mrs. F. had not lost as much blood as would stain a napkin. I then removed the puff-ball; but, fearing lest any return of the hemorrhage might occur—a thing not to be desired—I, in the same manner, introduced the other half-ball, leaving it there for twenty-four hours, with the same good effect. From this time, my patient made a good recovery, and has menstruated regularly ever since. A young medical man in the neighbourhood, to whom I mentioned the above case, has just informed me that, a few weeks ago, he had a similar case, in which he used the puff-ball with the same satisfactory results. (Mr. Thos. Duncan, Fintona, co. Tyrone, British Med. Journal, Nov. 8, p. 909.)

UTERINE MYOMA.—*Removal of the Uterine Appendages.*—The great majority of cases of uterine myoma which come to us for surgical treatment can be quite satisfactorily dealt with by the removal of the uterine appendages, and it is an operation having a small and steadily diminishing mortality. Since 1878 I have performed it many times with few deaths. The arguments used against it are, first, that of its mortality, but this mortality is the inevitable result of early work, and is therefore not a permanent objection. It was an objection urged 25 years ago against ovariotomy, but it no longer holds good against that operation The second objection is that myoma itself is not a fatal disease, but this argument is not in harmony with my own experience. Two other objections have been urged generally against the removal of uterine appendages –that it sterilizes and destroys the patient's sexual appetites. Of course, a woman is completely sterilized by a uterine myoma ninety-nine times out of a hundred. so that the process of complete destruction of fertility is a matter of little moment. The other objection has been shown to be perfectly groundless, but even if it were not so, it could hardly be urged on the ground of morality that a woman should go on suffering because she ought not to suffer any diminution of that animal propensity which it is the chief object of the higher life of all religious culture to subject, and the subjection of which forms for all creatures the greatest difficulty in existence. I have pretty well satisfied myself that there is one form of myoma on which removal of the appendages exercises no control. This variety I have named the soft œdematous myoma. But it is not easy to recognise this form of tumour until after it has been removed. Again, there are a few cases, very few I have found them to be, in which the appendages cannot be removed, and we must proceed to hysterectomy. (Mr. Lawson Tait, F.R.C.S., Birmingham, Canada Med. and Surg. Journal, Sept. p. 77.)

PRACTICAL MEDICINE.

DISEASES AFFECTING THE SYSTEM GENERALLY.

ART. 1.—ON THE INFLUENCE OF ANTISEPTICS ON MICRO-ORGANISMS.

By E. KLEIN, M.D., F.R.S., &c., London.

I have made a good many observations on the influence of antiseptics on micro-organisms, both putrefactive and pathogenic, and I have found that many assertions hitherto made on this subject are absolutely untrustworthy and erroneous. Various species of putrefactive micrococci, bacterium termo, bacillus subtilis, various pathogenic micro-organisms, as bacillus anthracis, bacillus of swine fever, absolutely refuse to grow in media to which is added phenyl-propionic acid, or phenyl-acetic acid, to an amount so small as 1 in 1,600; but if the same organisms are exposed to these substances in much stronger solutions, 1 in 800, 1 in 400, or even 1 in 200, and then transferred to a suitable nourishing material, it is found that they have completely retained their vitality, they multiply as if nothing had been done to them. I have exposed the spores of bacillus anthracis to the above acids of the strength of 1 in 200 for forty-eight hours and longer, and then inoculated guinea-pigs with them, and I found that the animals died of typical anthrax in exactly the same way as if they had been inoculated with pure spores of the bacillus anthracis. Koch has published a large series of systematic and most valuable observations, made in testing the influence on spores of bacillus anthracis of a large number of antiseptics (thymol, arsenite of potassium, turpentine, clove-oil, iodine, hydrochloric acid, permanganate of potassium, eucalyptol, camphor, quinine, salicylic acid, benzoic acid, and many others), and amongst them he found perchloride of mercury to be the most powerful, since even a solution of 1 in 600,000 is capable of impeding, one of 1 in 300,000 of completely checking, the germinating power of the spores. To regard these substances, from these observations, in any way as antiseptics for the spores of bacillus anthracis would be no more justifiable than to consider weak vinegar as such. Perchloride of mercury in a solution of 1 in 300,000 is no more capable of interfering with the life and functions of the spores of bacillus anthracis than water or salt solution, for the spores may be steeped in this solution for any length of time, and yet on being transferred to a suitable medium they grow and multiply splendidly, and when inoculated into rodents they produce fatal anthrax with absolute certainty. With my friend Dr. Blyth, Medical Officer of Health for the Marylebone District in London, I have tried the action of a number of substances in common use as antiseptics, (*e.g.* Calvert's fluid, pure terebene, phenol 10 per cent., perchloride of mercury 1 per cent.) on the spores of bacillus anthracis, exposing these in comparatively large quantities of the above fluids (the two being well mixed) for twenty-four hours, and then inoculating guinea-pigs with them (spores and antiseptic). The animals died with symptoms of typical anthrax, the blood teeming with the bacillus anthracis. These substances then are no more antiseptics, and still less germicides, for the spores of bacillus anthracis than water is.

In all these enquiries, particularly in those upon pathogenic organisms capable of forming spores, the influence of the substances must be judged not merely by their action on the organisms, but also on the spores; for, in this very case of the bacillus anthracis, the bacilli taken from the blood of an animal dead of anthrax are killed after an exposure of say ten minutes to a solution of phenyl-propionic acid of the strength of 1 in 400, or even 1 in 800, whereas the spores of the bacilli (produced in artificial cultures) withstand completely exposure to this acid of any strength and for any length of time.

The work hitherto done has been enormous, but, I fear, of less utility than at first sight appears, for in most of it the point most prominent in the mind of the worker was to ascertain whether the particular antiseptic, mixed with the nourishing medium in a solution of definite strength, has or has not the power of inhibiting the growth of the micro-organisms. This point no doubt is of some interest, and perhaps of great interest, but whether a particular substance is an antiseptic in the proper sense of the word, *i.e.*, whether on exposing the organisms to this substance in a solution of definite strength and for a definite period the organisms become afterwards incapacitated from growing or multiplying; or still more, whether or not the substance is a germicide, *i.e.*, is capable of altogether annihilating the life of the organisms; these are questions which require special attention, and represent a wide and rich field of enquiry; but, so far as I can see, it has received only in very few instances due attention.—*Practitioner, Oct.* 1884, *p.* 252.

2.—RECENT OBSERVATIONS ON CHOLERA.

By Julius Dreschfeld, M.D., F.R.C.P., B.Sc., Professor of Pathology, Victoria University, Manchester.

Dr. Lewis found a comma-like bacillus in the mouth and fæces of healthy persons, identical in size, form, and reaction to dyes with the cholera bacillus of Koch. From further observations it would appear that the bacillus which Dr. Lewis describes is no other than the spirillum found constantly in the saliva of healthy persons, and well known to any one who has ever examined saliva or sputum for the detection of micro-organisms. It is impossible that such an excellent observer as Koch, whose researches, more than any others, have stood the test of time, could have made such a mistake. We are quite willing to believe that the comma-like bacillus is not exclusively found in cholera dejections, and that therefore in itself it is of no diagnostic importance; but Koch has based his views on the cultivation of this comma bacillus, and in his report lays especial stress on the importance of cultivating these organisms. Dr. Lewis has made no such cultivations with the organisms which he described, and therefore cannot be said to have refuted Koch's observations.

Finkler and Prior describe observations which they made on the dejections of patients suffering from ordinary English cholera (Cholera nostras). Within a very short time twenty-nine persons, all living in Bonn, were affected with the characteristic symptoms, and all recovered. The dejections were at first those of ordinary diarrhœa, then they became paler and more fluid and rice-water like, though they were never quite colourless. Examining the rice-water stools for micro-organisms they found only micrococci, and these in chains of four, six, or more. The examination of fæces passed earlier in the disease, when the stool would resemble more that of ordinary diarrhœa, showed, besides other micro-organisms, abundant masses of comma-like bacilli, of size, appearance, etc., identical with those described by Koch in the Asiatic cholera. Cultivation of the bacilli and inoculation gave negative results. The authors expressly state that they never found these bacilli in healthy fæces. In their second communication, Finkler and Prior state that, by modifying their cultivation experiments, they obtained positive results of even a more complete nature than was the case with Koch's cultivation experiments on the dejections from patients suffering from Asiatic cholera. If a small particle of fæces from a case of English cholera is planted upon any one of the ordinary cultivating media and kept at a temperature of 25° to 35° C., the comma bacilli appear in two to three days; if kept longer the bacilli disappear, for they undergo further development. The authors have, after cultivation, described a permanent spore, and they give as a proof of its resistance an experiment where a perfectly putrid fæcal mass from a case of English cholera, which contained only spore-like bodies and micrococci, developed on cultivation a crop of perfect comma bacilli.

How far the bacilli described by these observers are identical with those seen by Koch in Asiatic cholera remains yet to be seen; the observations, however, clearly show that the comma bacillus as such has no diagnostic value without further cultivation, and that, even with cultivation, matters are not so simple as was at first supposed. Without wishing to express an opinion on the merit of these observations, we cannot help thinking that the organisms seen by Prior and Finkler are not those described by Koch, who, after several months' patient work, did not succeed in finding permanent spores, or in tracing the development of the spirilla from the comma bacilli.

Koch believes the bacilli described by Lewis to be simply the well-known organisms seen in saliva and in the mucus round the teeth. These bacilli are easily distinguished from Koch's cholera bacilli, as they do not grow in a neutral or slightly alkaline meat-infuse-pepton-gelatine, in which the cholera bacilli develop so well. Finkler's bacilli, obtained from cases of English cholera, Koch had an opportunity of examining, and finds them not like those seen in Asiatic cholera. Koch had the opportunity of examining recently three cases of English cholera, two of which ended fatally, and in none of them could any comma bacilli be detected either on microscopic examination or on cultivation. Numerous observations made in his laboratory (in which a number of medical men are now pursuing bacteriological research) have so far shown the absence of the comma bacillus in the excrements of healthy or diseased persons in diarrhœic and dysenteric stools, in the saliva, and in many other substances examined.

Koch repeated the experiments of Rietsch and Nicati, by injecting a dilute pure cultivation of the comma bacillus into the duodenum of dogs and guinea-pigs, without however ligaturing the ductus choledochus. With but few exceptions the animals so operated on died in one and a half to three days. The mucous membrane of the small intestines was found reddened and the contents watery, colourless, or with a slight red tinge, and at the same time flocculent, showing an extraordinarily large number of comma bacilli. Koch does not state that the animals died of cholera, and therefore a sceptical mind would look upon these experiments as merely showing that the duodenum of the animals operated on formed a favourable soil for the growth of the comma bacillus.—*Medical Chronicle, Nov. and Dec.*, 1884, *pp*. 152, 257.

3.—ON THE ANTIPYRETIC TREATMENT OF FEVERS.

By Professor Nothnagel, Vienna.

I cannot help protesting against an abuse, I can call it by no other name—an abuse which has generally extended in practice, namely, the tendency to treat a fever *à tant prix*. When the practitioner is called to a patient who sickened yesterday, and who to-day has a temperature of over 101°, and it is not possible to make a positive diagnosis, as no local affection is as yet discoverable —treatment consists in administering quinine or some other antipyretic. In order to do no harm one prescribes a small dose, but one does give quinine, thereby suggesting that the fever must be in some way removed. I have received the impression, during the last six years or so, that the employment of quinine has become a reflex phenomenon. We have begun to emancipate ourselves from the opinions which were general fifteen or twenty years ago. I would suggest that the fear of a temperature of 102·5° owes its origin to the scientific employment of the antipyretic method introduced by Liebermeister according to the method of Brandt, which in itself is an excellent procedure, and which has added much to our resources. As the treatment by cold baths is attended with some difficulty, and patients have some aversion to it, one began to employ quinine, and since then this drug has been given on a much larger scale than digitalis, nitre, and nitrate of soda were employed in earlier times. The two latter have now fallen into disuse, and only digitalis is now used as an antipyretic. I cherish the hope and the conviction that this false and erroneous employment of quinine will also in time be discontinued. I need not remark that the way in which quinine is, in most cases, administered, is quite incapable of diminishing temperature. Two, three, or five grains have no effect, nor, indeed, have fifteen grains if taken at intervals of twenty-four hours. Dr. v. Jaksch has already remarked that the fever is not a symptom to be removed in every case; the fever, according to my conviction, which is also the conviction of many other investigators, is a most beneficial phenomenon, one of those processes of reaction which we must look upon as compensatory; we do not, however, know in what way these processes work. With respect to the infectious diseases it has been suggested that the growth of micro-organisms is diminished in high temperatures; to me, however, they seem quite on the contrary to find more favourable vital conditions in fever. But attention has been drawn to a new point of view. I refer to the interesting writings of Metschnikoff, who is of opinion that the "Fagocytes" destroy the micro-organisms and render them innocuous, and that these processes find more favourable conditions at a high temperature. I would only just mention it on this occasion, as our knowledge in this direction is not at all complete. Moreover, I maintain that we do not shorten the duration of the course of an acute fever, even by a single day, when we have succeeded in diminishing the temperature; we even know that there are typhoid processes which run a non-febrile course without any therapeutic treatment, and in which, nevertheless, death occurs. We know of a great many accidents occurring in the course of a febrile disease which do not depend upon the high temperature, but which are due to other conditions. I do not mean to say, however, that we may be indifferent to very high temperatures. A temperature exceeding 104° must be energetically combated, but a temperature of 102·5° does not require such energetic treatment, and the less so in diseases which have a short course. This depends very much on the individual, on the constitutional conditions, and so on, and I only mention it *en passant.* In general we may say that a temperature which does not exceed 104° does not injure the patient. Every one who has had the opportunity of observing a case of recurrent fever knows that it is so. The patient suffering from recurrent fever lies in his bed with a temperature of 104°, 105°, and even 106°, quite untroubled, his sensorium is quite unaffected; when the temperature diminishes, the patient is exhausted, but we do not find that the high fever has done him much harm. To return again to the point from which I started, I maintain that it is an abuse to administer antipyretic agents, especially quinine, in temperatures of 102° and 103°, on the very first day of the treatment, when one has yet no definite idea of the development which the disease-process will take, letting alone the practical point of view, that quinine must rise in price if we employ it in all cases in which bicarbonate of soda, hydrochloric acid, or some similar drug, would do as well.—*Medical Times and Gazette, Dec.* 6, 1884, *p.* 797.

4.—ON THE ANTIPYRETIC ACTION OF SALICIN AND OF THE SALICYLATES IN RHEUMATIC FEVER.

By F. J. B. Quinlan, M.D.,Dubl., F.K.Q.C.P., Physician to St. Vincent's Hospital, &c., Dublin.

The use of instruments of precision for the estimation of the bodily temperature has given exactitude to what was previously only an approximation; and, with the aid of the clinical thermometer, we follow the rise and fall of the thermic wave with complete accuracy. This is particularly shown in the action of salicin, and of the salicylates in rheumatic fever; and it is in reference to this that I propose to consider them; for, although possessing a certain antipyretic power in pneumonia and in febrile diseases generally, they cannot be compared to quinine in this regard. Their action in rheumatic fever must be a satisfaction to every practitioner, for it would not be too much to say that they have removed this formidable malady from the list of *opprobria medicinæ.* In a celebrated discussion, held about a quarter of a century ago, an eminent physician expressed his belief that the only certain remedy for rheumatic fever was "patience, flannel, and six weeks," and he would doubtless now be surprised to see the most formidable cases mastered in less than as many days; and this is to be accomplished by the free and frequent use of the sodium-salicylate, or, much better, of the natural alkaloid salicin itself. This latter I now altogether employ.

I have given up salicylic acid, on account of its sparing solubility; and if its sodium-salt be used in the large doses which are necessary to prompt and complete antipyretic effects, the most unpleasant results are liable to arise.

From a very extensive experience, both of the natural alkaloid and of the artificial phenol derivative, it appears to me that there is no use in giving either in doses of 15 grains every third hour, and that the proper treatment of rheumatic fever is, having carefully noted the temperature, to begin boldly with from 30 to 50 grains of salicin, according to the severity of the symptoms, and to twice renew this dose at hourly intervals. If, at the end of three hours, the temperature be found reduced by at least one degree Fahrenheit, the dose may be persevered in for three hours more, when a reduction of from two to three degrees Fahrenheit will probably be found, with a corresponding improvement of symptoms.

If, on the contrary, at the end of the third hour the temperature should be found unaltered, or even increased, an addition of 10 grains should be made, and persevered in for two hours, at the end of which another 10 grains should be added if necessary; and, unless in some very exceptional case, the struggle must and will end in the victory of the alkaloid, and that without the slightest unpleasant symptom. I have several times given 50, or even 60, grains every hour, but this is seldom necessary.

It has been asserted that cases of rheumatic fever treated by salicin, or by the salicylates, are more liable to cardiac metastatic troubles; but this is entirely contrary to my experience of 102 cases so treated, in which there were only five cardiac cases.

No practical physician will for a moment doubt the antipyretic powers of salicylic acid, or of its more handy and soluble sodium-salt, in the treatment of acute rheumatism. To promptly master this disease, however, they must be given in hourly doses of from 20 to 50 grains; and I have seldom so employed them without producing nausea, vomiting, general depression, drumming of the ears, and, occasionally, temporary interference with sight or hearing. It is difficult to account physiologically for the marked difference in the clinical action of salicin and of the salicylates; and if we admit the hypothesis, generally received at present, that salicin is converted, in the system, into salicylic acid, the difficulty is proportionately increased. I see many objections to this view; and, without advancing any speculative opinion on an obscure point of therapeutical chemistry, would suggest the consideration whether both salicin and the salicylates are not converted into salicyl. There is yet another possibility of accounting for the sickening and depressing effects occasionally produced by the salicylates, namely, that the acid made from carbolic acid is sometimes impure. Salicin, in latter years at least, is almost invariably a pure product. Reviewing the whole subject, I decidedly lean to the use of salicin in preference to any of the salicylates. It will do all that they can do; it will do so more effectually, and without any ill effects; and, lastly, the dose of salicin is practically unlimited.—*British Medical Journal, Dec.* 6, 1884, *p.* 1124.

5.—ON THE OIL OF GAULTHERIA (WINTERGREEN) AS A NEW REMEDY FOR RHEUMATISM.

By H. H. Seelye, A.M., M.D., Amherst, Mass., late House Physician to Belle Vue Hospital, New York.

About two years ago I believe the oil of wintergreen was first suggested as a substitute for salicylic acid and its salts, the latter being a chemical derivative from the former. Very soon after this our visiting physician at the hospital, Dr. Henry F. Walker, of New York, proposed that we experiment for a while with this new remedy to see if it had any merits. We accordingly began to use it at once, and with such surprising results that from that day onward it was always our main reliance in the treatment of all rheumatoid affections.

The method we employed the most was to give it in an emulsion of ten minims of the oil to half a drachm each of glycerine and water. If the patient had been sick for some time, and the inflammation of the joints was extensive, we usually ordered two drachms of this mixture every two hours during the day, and every three hours throughout the night. Under this treatment almost invariably within twelve hours the patient would express great relief, and by the end of twenty-four hours the pain and swelling would have left all the joints except, perhaps, a little in some one articulation; and there would only remain a slight stiffness of the previously inflamed parts, due probably to the distension of the adjacent tissues by reason of the swelling, which had now disappeared. Before or about this time, however, the patient would generally complain of some ringing in the ears and deafness, similar to that produced by large doses of quinine, but usually not so markedly annoying in character, and he would be apt to have some headache or a sensation of fullness in the head. These symptoms occurring synchronously with the cessation of pain, tenderness, and swelling from the joints, and with a sudden fall of temperature to the normal, were generally considered an indication for diminishing the dose of the medicine, and it was therefore usually reduced to one drachm every three or four hours, according to the relative amount of the cerebral and joint disturbance. If too much of the medicine was still given, its evil effects became more marked. The patient would now experience a loathing of the drug; nausea and vomiting would set in; the deafness, tinnitus aurium, and headache would increase; the muscles of the hands, limbs, and face would become tremulous; the countenance would be flushed, and the whole body be bathed in a profuse perspiration; and at length the patient would become delirious, till in some instances the symptoms so closely resembled those of delirium tremens that it was often difficult or quite impossible to tell whether they were really the manifestations of the physiological limits of the remedy, or those of an alcoholic patient deprived of his accustomed stimulants. These extreme symptoms, more or less modified, were observed by us in perhaps eight or ten cases of acute articular rheumatism, but they almost invariably occurred in patients who had been hard drinkers, and in whom the attack of rheumatism was most probably due to some unusual exposure to cold or wet while in a state of intoxication. In the large majority of cases only a little ringing in the ears was complained of, and this would soon cease upon the diminution or complete withdrawal of the drug. There were also very many cases in which no evil results were ever manifested, but the patient speedily recovered without experiencing any annoyance. There would always be a certain number of cases which would yield promptly to the remedy, so far as relieving the acute suffering, reducing the inflammatory swelling, and lowering the temperature were concerned, but still a little pain on motion, or a slight stiffness, would hang about some one joint, usually the shoulder, wrist, finger, or ankle, and it would be several days longer before the patient could say that he was perfectly free from pain and felt well. Again, there would be comparatively few patients who, after being speedily relieved, would be up and moving about the ward for some days without taking any of the medicine, and then there would come a sudden relapse, and the pains would return, though with less severity, in one or more joints. But here a renewal of the remedy usually induced a rapid recovery. In order to guard against such relapses and to be sure that the cure was permanent, it was our custom to keep the patient in bed and to continue the medicine in smaller and less frequent doses for at least two days after all symptoms of the disease had disappeared, then to retain him in the ward for two or three days longer without giving him any medicine but tonics, and then, if there was no return of the symptoms, to discharge him cured. In a very large majority of cases the patients themselves asked, about this time, to be discharged, because they felt so perfectly well.

The one variety of rheumatism in which this remedy was found to be most efficient and rapid as well as permanent in its action, is what is commonly known as acute articular rheumatism; and the more acute the attack, the more joints are involved, the more inflamed and swollen they are, and the higher the temperature, so much the more speedy and complete is the cure apt to be. It is, in fact, in these worst of all cases that the remedial power of this drug is most wonderful to see. Yet it must not be supposed that it is of insignificant value in the more subacute forms of the disease; for here too it almost invariably diminishes the severity of the suffering, and, after a time, often effects a radical cure.

In the chronic forms of rheumatism the action of the remedy seems to be limited in most cases to merely giving prompt relief from the acute pains and swellings attending exacerbations of the malady, and for this purpose it is very efficient. But, like most other drugs, it is powerless to correct the permanent damage done to joints which have long been undergoing morbid changes in their fibrous and cartilaginous structures. The same statement is true, as a rule, in regard to those other obstinate forms of the disease known by the various names of gouty rheumatism, arthritis deformans, rheumatoid arthritis, gonorrhœal and syphilitic rheumatism, etc. In the active stage of all these some temporary relief will usually be afforded, while a complete recovery under its influence is very rare.

As regards the frequency of cardiac complications developing under this plan of treatment, it is certain that the liability to them is not increased. In one or two of our cases a pericardial or endocardial murmur seemed to develop while the patient was under observation, but in more instances a murmur which was audible upon admission disappeared entirely under this treatment. It is doubtful if the medicine has any such depressing action on the heart as is attributed to salicylic acid and its salts. There was, however, one death among the cases recorded, which occurred so suddenly and unexpectedly as to raise strong suspicions at the time as to how much the medicine had to do with it.

It was the task of the writer to collect an equal number of successive cases treated, as far as possible during the same months, by the salicylates, in other wards, and in the same three wards during the months prior to the beginning of the gaultheria plan of treatment, and then to tabulate and compare the results of these two methods.

On looking over the tabulated statistics we see that, out of ninety similar cases treated by each method, the oil of gaultheria had the advantage of four more cases cured by it than by the salicylic-acid treatment, and also in the fact that eight more cases refused to yield to the acid than to the oil, and the patients were necessarily discharged only improved. But the gaultheria apparently lost all this advantage by a record of three times as many deaths as could be attributed to the salicylates. Yet this disadvantage may actually be more apparent than real, because all of the six patients who died had unmistakable symptoms of acute alcoholism, which symptoms there is no reason to believe were induced by the oil of wintergreen.

The acid seems to act with just about the same promptness as the oil in a certain number of cases which are readily amenable to treatment, but it is in speedily subduing those more obstinate cases which resist the first assaults of the remedy that the oil has the advantage. Its persistent and oft-repeated attacks at length seem to weary out the disease, and to destroy the morbid elements in the system on which it thrives, until at length the malady is completely overcome. The salicylic acid, on the other hand, if it fails to overpower the disease at once, either yields up the field entirely or its administration must be long persisted in before its efforts are crowned with success. Out of the ninety cases recorded as cured, sixty-five yielded within three weeks to the oil, while only fifty-six succumbed to the acid; and nine cases treated by the latter drug ran along for over a month, to four treated by the former.

The real superiority of the wintergreen over the salicylates is again seen in the average number of days each patient who was cured remained under observation in the hospital. It was eleven and a half days for those treated by the oil to fourteen and a half days for those who took the acid—an advantage of three days for the gaultheria.

It would be unjust to suppose that this represents the actual duration of the disease after the patients entered the hospital, for in the case of those treated by the gaultheria, and probably also with those treated by the salicylates, it was the custom to keep them under observation for at least two or three days after all the pains and other active symptoms had disappeared, in order to build up the debilitated constitution by tonics and nourishment, as well as to guard against an early relapse. On this account alone an average reduction of about two days and a half from the time of stay in the hospital may safely be made, in order to determine the actual duration of the disease after the treatment by either method was begun. This would leave the average length of the gaultheria treatment as nine days, and the salicylate as twelve. But a still further deduction ought to be made from the time of the gaultheria treatment by reason of delays caused by the substitution of an inferior article, either the oil of birch, or a diluted oil of wintergreen, during four or five out of the eighteen months of experimentation. With these considerations it is fair to suppose that, under favourable conditions, the mean duration of the disease under the treatment by the oil of wintergreen would not exceed one week.

Again, in the matter of the greater infrequency of relapses the new treatment seems to surpass the old, for, in looking over the histories of the patients treated by the salicylates, it was very remarkable how much more frequent such slight and brief recurrences of the attacks were than was accustomed to be seen in our wards where the gaultheria was used. Under both treatments, however, these mild relapses seemed to yield promptly to a renewal or an increase of the medicine.

In respect to the relative frequency of cardiac complications developing in the wards, there was no noticeable difference, and, besides, the records on this point, under both plans of treatment, were too indefinite and inaccurate to be of much practical value.

In connection with the consideration of this drug in its relations to acute rheumatism, it will be appropriate here to record the results of our limited experience in its local use. In a somewhat recent issue of one of our prominent medical journals it was stated that an emulsion, composed of equal parts of the oil of wintergreen and olive-oil, or the ordinary soap-liniment of the Pharmacopœia, was an excellent topical anodyne application to inflamed and painful rheumatic joints. Acting on this suggestion, it was tried in a considerable number of cases, and nearly always with excellent results in giving prompt relief from the acute suffering. Of course, this was only used as a palliative and temporary measure while waiting for the constitutional remedy to impress itself upon the system.

In summing up the results of our experiments with the oil of gaultheria, a brief recapitulation of the most important points brought out will recall more clearly to mind the advantages of this drug as an anti-rheumatic agent. We have found that it has all the valuable properties of salicylic acid, to which it is closely allied. Its action is more prompt and efficient in obstinate cases. It has a more agreeable taste. Relapses under its use are less frequent. The unpleasant effects of over-dosing are no greater, and it is less depressing. Cardiac complications are no more frequent. It is important not to substitute the oil of birch or a diluted article for it. Large and frequent doses are necessary to get the best effects. It is an efficient palliative remedy in chronic and irregular forms of rheumatism. It is a local anodyne to inflamed joints.—*New York Medical Journal, Nov.* 8 *and* 15, 1884, *pp.* 507, 543.

6.—ON THE TREATMENT OF GOUT.

By Professor Dujardin Beaumetz, Paris.

When you are called to treat an attack of gout, you will first assure yourself of the integrity of the kidneys, then you will administer salicylate of soda in doses of from one to one and a half grammes, or, if you prefer, the tincture of colchicum seeds combined with quinine or strong tincture of aconite root. If, on the contrary, the kidneys are damaged, or if the heart seems to be degenerated, you will have to content yourselves with giving alkaline diluents and keeping the bowels open with saline purgatives; besides enswathing the affected member with wadding around which is placed oiled silk.

But it is not enough to combat the attack of gout, something must be done to prevent its return, and here we have many means at our command, both pharmaceutical and hygienic. Whatever theories may be admitted in explanation of uræmia, it is against this condition that all our efforts should be directed; here then is the place for the alkaline medication under all its forms.

All the alkalies may be employed, soda as well as potassa, but there is one that seems to me better than all the others, viz., "lithia," which Garrod recommends. I need hardly tell you that the dose of carbonate of lithia is seven or eight grains given at meal-time in carbonic acid water; the effervescent salts of lithia are good preparations. Benzoic acid and the benzoates have also been highly extolled, and combinations of benzoic acid with alkalies are in use, such as the double benzoate of soda and lithia, which is an excellent preparation.

The pharmaceutical treatment of gout in the interval of the attacks is limited to the administration of alkalies in all their forms and bitters and other tonics. Add to these means the thermal treatment, which plays a considerable part in the therapeutics of this disease. Three stations among all those which have been considered as suitable for podagrous patients ought to attract your attention, viz., Vichy, in France; Wiesbad, in Germany; Carlsbad, in Bohemia.

There has been much discussion concerning the mode of action, the advantages and disadvantages, of Vichy water in gout. To-day this question seems to me decided. It is not by neutralizing the excess of uric acid that these alkaline waters act, it is by their influence on the general nutrition, whose functions they regulate. But I am well aware that it will not do to exceed certain quantities, and that the treatment by alkaline mineral waters is not altogether unattended with evil. You should then send to Vichy your strong and plethoric patients whose nutritive functions are below par, and you should prescribe these waters to weakly patients whose attacks are but little accentuated—in a word, who have the symptoms of what has been described under the name of atonic gout and gouty cachexia.

The Carlsbad waters act like those of Vichy, always with this difference, that they are purgative. They suit admirably gouty patients with hepatic congestion and gastro-intestinal troubles, characterized by constipation or irritation of the stomach and bowels, provoked by excesses of the table. Weisbad belongs to the sodic chloride waters, and is applicable rather to the arthritic diathesis than to gout itself. The Aix la Chapelle waters, as well as those of Ems and Royat, which are all sodic chloride waters, act also by the lithia which they contain, and combat rather the multiple manifestations of the arthritic diathesis than the excess of uric acid itself. These are very useful spas, to which you would do well to refer a large part of your chronic rheumatic patients.

Hygiene plays a considerable part in the prophylactic treatment of gout. Everybody is agreed that gout, aside from the laws of heredity, is the consequence of defective hygienic conditions, the uric diathesis, which is its starting-point, being an evidence that the azotized materials introduced into the economy there undergo an incomplete combustion. We have, then, two great factors in the pathogeny of gout: too abundant alimentation, too little muscular exercise. Gout is a disease of the rich, and this is a fact on which have insisted all writers from the most remote antiquity. You should, then, have a care over the alimentation of your gouty patients, and proportion it to their muscular work. You should look after not only their solid food but also their daily beverages, alcoholic excesses having an important influence in the etiology of gout. In fact, for ages attention has been called to the influence of spirituous liquors on the development of this disease. Wines that contain too much alcohol, as well as strong beers, should be interdicted altogether; although Garrod has condemned cider, I do not believe that this beverage can give rise to gout; I think there may be cases in which it may be beneficial.

But if the dietary of the gouty patient needs to be carefully regulated, it is just as necessary to prescribe suitable muscular exercise of all kinds; gymnastics, fencing, pedestrianism, all should be employed, for, as has been said, "Gout well exercised is half cured."—*Philadelphia Medical News, Oct.* 18, 1884, *p.* 425.

7.—ON THE CLINICAL MANIFESTATIONS OF RÖTHELN, OR GERMAN MEASLES.

By W. A. Edwards, M.D., Assistant Demonstrator of Clinical Medicine in the University of Pennsylvania.

The following statements are based upon the observation of about 166 cases of Rötheln, of which some hundred odd cases were admitted to the Philadelphia Hospital in 1881-2.

Stage of Incubation.—This is, of course, the most difficult to decide positively, as symptoms were entirely absent during this time. As near as we could ascertain, the duration of this stage was about ten days; at all events, between ten and twelve. The shortest period recorded was six days, and the longest twenty-one.

Stage of Invasion; Symptoms.—Chilliness, languor, faintness, headache more or less severe, pain in the back and limbs, coryza, red and watery eyes, *sore throat,* cough, and a hoarse, husky voice are the most frequent notes of this stage. The following additional symptoms were noted in about 15 per cent. of the cases: nausea and vomiting, delirium and convulsions, and epistaxis in three cases. Two cases of hemorrhage from the eyes and ears are recorded by J. Ford Prioleau. The average duration of this stage, in our cases, was *three days,* when the eruption appeared, the general symptoms in the meanwhile increasing in severity.

Eruptive Stage; Symptoms.—After the above-noted symptoms had lasted about three days, an eruption appeared, generally first in the face, and rapidly extending over the whole body; the existing symptoms were greatly aggravated, in fact beyond what the temperature and pulse would seem to indicate. Occasionally a prodromal rash was noted to precede the specific eruption, more marked in the buccal cavity. C. J. Collingworth has four times seen a severe attack of urticaria precede, for a few hours, the development of the characteristic rash of Rötheln. Erythema preceded the exanthem in four of our cases. Rapid extension of the eruption progressively downwards, about in the following order, was most frequently noted; face, neck, chest, arms, back, groin, and lower extremities. The rash was multiform in character, more or less confluent, occasionally ill-defined; in colour, rosy, or pale red. A few cases of the brightest scarlet and some purplish tints were observed. Patterson, of Leith, compares the appearance of the patch in colour to that "produced by a writing-quill dipped in red ink, and having its point placed on moist white paper." The rash was punctated, small macules were noted; over the non-vascular parts the rash was elevated, producing a rough skin easily detected by the touch. The patches were very irregular in outline, shape, and size, the last factor being the most irregular. The centre of each patch was much higher in colour than any other part. Much hyperæmia of the intervening skin was present in many cases; itching was then a more marked symptom.

Dunlop says that he has seen petechiæ, as has also J. L. Erskine, in the uvula and soft palate. In rare instances the eruption goes on to the formation, upon hyperæmic spots, of a varying number of vesicles resembling miliaria. Reed records a case in which the eruption alone appeared upon the tonsils and velum palati, but no rash whatever on any external part of the body. According to Thomas, the eruption is due to a capillary hyperæmia of the papillary body of the uppermost layers of the corium. The eruption was generally discrete; had little tendency to become confluent; when it did occur, it was most marked on the face or extremities.

Superadded to the previously existing symptoms, the eruptive stage presented *rise in temperature* of from 1 to 3 degrees; 103°, 104°, are recorded in the notes, the temperature being in proportion to the extent and severity of the eruption. Many of the little patients complained of a sense of constriction of the chest. *Sore throat* was *always* present, with enlargement of the tonsils, in some cases to a great extent. Enlargement and induration of the cervical, post-cervical, and post-auricular glands were now present. Occasionally only one or two glands would be affected; in other cases the entire chain. The cough was generally increased in severity and frequency, and became more laryngeal. In quite a fair proportion of cases vomiting occurred as the eruption was approaching its maximum; in five cases it was almost uncontrollable.

Pulse.—The pulse-respiration ratio was in all the cases maintained, it falling with the temperature, and that with the disappearance of the rash. Pulses of 120, 130, 140, 150 were recorded. Several cases presented well-marked symptoms of heart failure, but were successfully treated by general and cardiac tonics.

Tongue.—Coated as the scarlatinous tongue, but never exfoliated as the tongue does in that disease. The "strawberry" tongue was never met with; dry brown tongue appears in the notes of the more severe cases. Cleaning in patches was the most usual method of return to the normal appearance.

Urine.—This secretion was such as is found in all similar states, "febrile urine." Slight albuminuria was present in about 30 per cent. of the cases. Nine cases presented well-marked albuminous urine (one-fifteenth bulk) with dropsy. No tube-casts, however, could be detected.

Duration and Termination of the Eruption.—The average duration was five days; the shortest was scarcely two days; and the longest of all the cases was fifteen. The eruption in all the cases was followed by *desquamation* of furfuraceous scales. In quite a number of the cases the desquamation was well marked, in others only on particular parts of the body, in these instances especially about the nose. A delicate brownish-yellow pigmentation was not infrequently observed after the eruption had subsided; this colouring did not appear to bear any relation to the colour of the eruption or its severity. The buccal cavity also partook of the general desquamation; it was here best marked in the throat proper.—*American Journal of Medical Sciences, Oct.* 1884, *p.* 451.

8.—ON THE CAUSES OF SCROFULOUS NECK.

By T. Clifford Allbutt, M.D., F.R.S., Consulting Physician to the Leeds General Infirmary.

We have learnt that chronic inflammatory enlargement of the glands of the neck is secondary to irritations in the associated mucous surfaces, and absorptions from them; the chief of these being the mouth and throat, and the next in order the nasal, aural, and ocular surfaces. Irritations indeed upon the skin of the face and head are not without influence in the same direction, so that, although the result be less common, yet glandular enlargements of the neck do occasionally owe their initiation to eczematous or other cutaneous disorders. We may feel tolerably sure that although in a given case we may be utterly unable to discover a peripheral cause for the enlargement of cervical glands yet they do not, under the influence of this diathesis at any rate, enlarge "of themselves," but only in obedience to some peripheral irritation which may belong wholly to the part. When the scrofulous diathesis is well marked the glandular expansion may be so enormously out of proportion to the initiating peripheral cause that this latter, if fugitive, may never be measured nor even perceived. Now these considerations, although taught by every thoughtful clinician, do not sink into the minds nor exercise the observation of the medical public so thoroughly as they ought to do. No competent observer would overlook such an obvious peripheral cause, for instance, as eczema capitis, scarlatinal sore throat, flux from the external meatus, and so forth; but I think the daily and hourly activity of the pharyngeal mucous membrane is not vividly realised in this matter. The mucous lining of the pharynx is a kind of screening machine which catches upon its moist surface and intercepts all that dust, organic and inorganic, which is drawn in with the air. Hence we know that these surfaces are constantly seeded with particles, many of them germinal, and not a few of them poisonous. Happily the membrane in its healthy state throws them off and allows no settlement to be made nor any germination to take place. All particles are promptly arrested and reconveyed beyond the portals of the mouth, or consigned harmless to the stomach, and no local irritation arises on the surface nor any sympathetic change in the glands. But let us suppose for a moment that this mucous covering is something less than healthy. We know that in scrofulous persons the mucous membranes are not very sound nor resisting; the mucus they secrete is not very stable but is liable to slip down into chemically acrid principles, and into degenerative cell changes. Herein the fermenting or irritating particles find a food or a soil in which they work after their kind, and thus, even unperceived, the fluids of the throat become, when absorbed, the vehicle of poison to the lymphatic glands adjoining. It is, perhaps, not necessary that the mucous surface be absolutely broken. Certain variations of moisture or density may suffice to favour absorption, even through an unbroken surface. Let there be a trifling delay or languor of the epithelial function, and particles mechanically, chemically, or vitally irritant will imbed themselves in the soft and absorbent vesture of the pharynx, and be themselves carried within or generate poisons upon the surface which are drawn inward. Again, by some vital mechanics a chill to the skin may disturb the nutrition of the membrane; if this occur in aseptic air, at sea, for instance, even the scrofulous subject may be quit for a cynanche; if it occur in foul air, but in a vigorous person, the mucous membrane may overpower the evil as strong turnips outgrow the fly. Again, in the glands themselves a temporary irritation may subside if the conditions of life be favourable, or, on the other hand, may progress under adverse circumstances, or in vulnerable constitutions. But the surface may be broken, broken but lightly and transiently, so lightly and transiently that he who seeks for the breach may fail to find it, yet a breach deep enough and enduring enough to set up that prolification in the glands behind it, which, in the scrofulous person, has no tendency to heal. Given the "vulnerability" it will suffice to start the process, it will suffice to admit the match to the heap, and the fire will smoulder on thereafter of its own activity. If we think then of the rain of organic particles falling incessantly by way of nose and mouth upon the lining of the pharynx in those of us who live under the purest physical conditions, the wonder will be not that scrofulous neck is generated but that so many of us escape it. Given but a broken surface in the healthiest person and a sufficiently prolonged exposure to organic particles, and it seems certain that your scrofulous neck must at some point arise unless an originally high vitality be constantly favoured by healthful habits and surroundings otherwise healthful.

As among the fortunate of mankind there must always be multitudes whose vitality and general resisting power are, on the other hand, constantly depressed, and who are at the same time breathing constantly an air laden heavily with impurities, we do not wonder that scrofulous neck has been a common and mischievous result, nor that a pure air and wholesome dwelling-place have been regarded as chief means of cure. One source of impurity the scrofulous rich and poor enjoy in common—that is, the drain and the cesspool. Herein the rich have no advantage over the poor, indeed, herein, the richer classes fare perhaps worse than the poor, who often lack those gifts of civilisation, and are vulgarly content to cast forth their ordure to the sun and the winds. If I may make a guess on a matter of which I can know nothing definitely, I would guess that the emanations from foul drains are the unseen carriers of scrofulous neck to the greater part of its victims in the richer classes. It seems as if it must be so. No influence is so potent to lower general vitality, and no poison finds so readily its home in the pharynx. Drain throat has become a common term in the last few years, and every day we recognise such throats by their appearance alone. In these cases the superficial mischief is ample and patent; but in how many more is it, although slighter and milder, yet strong enough and baneful enough to set up unhealthy buboes in persons thereto disposed! The question thus, in my view, is reduced to one of the degree, duration, and kind of local irritation acting upon subjects vulnerable in all degrees. When heredity is dominant local causation may take, no doubt, a lower place; where heredity is less, local causation is more, and where it is absent, local causation rules alone. Next to that of the mouth, gums, and throat, the mucous lining of the ear seems to be most ready to propagate secondary mischief in the cervical glands. It seems probable that in all cases the irritation is first propagated from the mucous surface to the minute nodules of lymphatic tissue which lie immediately under the mucous membranes, and that from these the evil is forwarded to intermediate lymph centres, and thus to the principal lymph glands in the neck. These, which in the normal state are barely palpable, gradually enlarge and succeed each other in chains, not larger at first than shot, but some of them ultimately increasing to the size of walnuts or even of a small orange. At first the glands, on section, show no caseation, but a pale transparent and uniform section. Neither at this stage, nor afterwards, is there any symmetry of disease between the two sides of the neck. In this stage the glands may return to the natural state, the hyperplastic material being re-absorbed.

If the malady progresses, however, caseation begins at multiple centres within each gland, which centres become fused until the whole gland becomes a cheesy mass. In the first stage it would be difficult, and without collateral evidence perhaps impossible, to distinguish scrofulous glands from those of lymph-adenoma. But as the infection becomes more distinctly inflammatory the diagnosis clears itself even to the explorer's finger. These bodies are no longer, as in lymph-adenoma, isolated, freely moveable, uniform and painless, but soon they form adhesions to the surrounding tissues and to each other; they become tender on pressure, and slight nodulation of their surfaces is to be noticed. The same contrast helps us to distinguish these scrofulous glands from enlargements far more likely to embarrass our diagnosis, namely, from the albuminoid glands of rickets. The aspect of the scrofulous child, moreover, is rarely to be mistaken for that of the rickety, nor has it the peculiar chlorotic skin of the latter.

Once more: we have hitherto considered the mucous membrane as peripheral to the lymphatic system; let us now call to mind the like effect which would be produced by some one degenerate gland as peripheral to the rest. I have proved, or had proved for me by the revelations of the surgeon's scalpel, that a forgotten surface irritation may have inflamed a few glands and have passed away; the glands themselves likewise passing away so far as the eye and hand could tell, but not altogether. One small, and perhaps deep-seated, enlargement may remain—a lump not larger than a pea—this may slowly caseate, and in the course of months, or possibly of years, become the focus of spreading poison to others; new activities then come on, successive glands in their turn enlarge and caseate, and scrofulous neck becomes established as a secondary event long after the primary affection of the mucous surface has disappeared and been forgotten. Such a state of things would be what lawyers call "consequential damage." Now here no purification of the mouth, throat, or ear would avail to remove the trouble, for it comes from a source which is beyond our reach and even beyond our ken. Such cases of secondary bubonic development are, I believe, very common, and the knowledge of this possible sequence should put us on our guard against any careless dealing even with the smallest and most isolated bubo. In a scrofulous person it may ultimately be the source of most troublesome mischief.—*Medical Times and Gazette, Dec.* 13, *p.* 806.

9.—ON THE TREATMENT OF SCROFULOUS NECK.

By T. Clifford Allbutt, M.A., M.D., F.R.S., &c.

The scrofulous patient runs three risks in the continuance of his local malady over and above his faulty inheritance, namely, first, a tedious local disease, followed by a peculiarly unwelcome disfigurement; secondly, the fear of deterioration of his general health thereby, such that his best years of adolescence are spoiled, and his entrance into manhood thwarted and weakened; thirdly, an inoculation of the system with elements which favour the development of more general tuberculosis. Now, how are we to avoid these evils? In the first place, whenever we have reason to suspect the scrofulous diathesis in young persons, we should secure, as far as possible, under these circumstances, the favour of pure and invigorating air, of sunlight, and of good food. We should most jealously watch the sanitary conditions of the dwelling or school-house, and prevent the possibility of the contact of infected air, water, or milk. We should especially watch the lining of the throat, mouth, ears, and so forth, and stop any tendency to unwholesomeness of the surfaces or secretions of these parts. If children inheriting such tendencies can be placed at the seaside, or in the fresh air of such health resorts as Harrogate, we shall help the growing body to rise above its original defects, and to mould itself on stronger lines. If in some early degree enlargement of the sub-maxillary and cervical glands have already taken place, these precautions will be the more needful. If we find the glands smooth, and free from all nodulations, isolated and non-adhesive, we may almost promise a cure, if the constitution be fairly robust, by a residence at Margate together with other due cares. Such glands, on the entire removal of baneful outer influences, and the promotion of the general health, will probably resolve. The dietary is to be dictated on principles already sufficiently familiar to you all, and cod liver oil will probably form a part of it. Medicines which favour the growth of red blood and stimulate appetite and digestion will be added. Of specifics there are few. I am satisfied, however, that the cautious use of mercury, say of the solution of the bichloride with tincture of iron, is desirable, unless the inborn frailty be very marked; and iodides with iron are likewise valuable.

External applications should be cautiously used; and in my own practice I have relied but little upon them. At any rate, it is certain that harm may be done by them if not most cautiously and judiciously managed. A well diluted ointment of iodide of mercury in proper cases is the most efficient means of this class.

So long as the glands remain free from adhesions and smooth on the surface, such remedies as the above may suffice to dissipate the malady; the removal to the sea-side being by very far the most potent of them.

So soon, however, as the glands become adherent, either to each other or to the surrounding tissues, so soon as they present small nodulations on their surfaces, caseation has begun, softening will succeed, and however great may be the benefits to be bestowed on the general health by climatic and medicinal remedies, yet we cannot at all rely upon the removal of the local mischief by these.

I say we cannot rely upon the removal of it. Not infrequently, indeed, scrofulous necks of some inveteracy and severity have been and are cured by residence at Margate. But such means are not in the power of all people, and if they were we still stand the risk of ultimate ill success, or the risk of shaking the constitution still farther by a continuance of the disease, and we give greater opportunities for the inoculation of the system with active or dormant tubercle.

These considerations pressed so strongly upon my mind some years ago, that I found for myself a shorter way out of the difficulty, a way which puts an immediate term to the disease, and which abridges what I may call the septic or tubercular opportunities of the malady. These reasonings and some of their results were published by Mr. Teale and myself at the International Medical Congress in 1881. I called in the surgeon to my aid on the modern principle of *ubi pus ibi exitus.* Wherever septic material is contained in the system we rest not till it be expelled, and its burrows laid open and disinfected. The knife has been used hitherto freely enough in scrofulous neck, on the principle laid down by Sir James Paget, namely, to wait till the skin warms, reddens, and fluctuates: then to make a clean incision, permit simple evacuation of the present matter, but not to squeeze nor even press the surrounding parts. We are to wait until a new area of softening be obvious, then repeat the process, and so on. Now this is palliative surgery, but it is not curative surgery. It scarcely alleviates the cause of the disease, indeed it does little more than substitute a fine and clean for a foul cicatrix. My proposal is a curative surgery, and it is now founded upon a wide basis of successful instances.

My purpose is radically to extirpate every caseous gland or portion of gland, and so quench promptly the smouldering fire. At first, we naturally had for our patients only those sufferers whose endurance was exhausted, and who willingly accepted any way, however doubtful, out of their sufferings. Gaining courage, however, by our success even in the worst cases, we are advising the radical operation more and more, until I may now mention it as one of our best means from the moment that caseation, however limited, is manifest. Recent instances lead me to hope that if such a practice become universal, scrofulous neck and all the hectic, asthenia, emaciation, and phthisical risks which belong to it, will become matters of history.

It is needless to say that the surgical procedure does not do away with the value of sea climates, good food, and tonic medications, but it does put an end to those constitutional infections which make such means more necessary. Where in-born frailty is strongly marked, such means are still to be added, and in a few very vulnerable patients the surgeon may be compelled to call in the aid of Margate in support of his undertaking. But such cases are the minority; many persons affected with cervical scrofula are not originally of bad physique; and these persons, whom we meet daily, can be cured by the knife alone, always directly and sometimes rapidly. When after years of smouldering inflammation and caseation group after group of glands have become involved, it would be unwise perhaps, even were it possible, to enucleate the whole mass either in one sitting or in instantly successive sittings. In general terms the aim which the surgeon must set before himself is to open all subcutaneous abscesses, to trace them to softening glands, to enucleate these, and to lay open all sinuses which lead to deep-lying glands, often concealed behind muscles or fasciæ, and to so completely eliminate all decaying tissue, and so cleanse the bed of disease, that healing may be rapid and complete. In a severe case several operations, even six or eight, may be needed to secure a stable result; but it is surprising to see how quickly the general health rebounds after the two or three first sittings. Finally, we claim not only to cure but to beautify the patient, for, if conveniently and neatly managed, the scars of the surgeon are so clean and fine as in a year or two to disappear altogether. To secure this desirable end, it is important, even at the risk of a repeated operation, to avoid the prolonged use of a drainage tube, for after such a procedure a denser and rougher scar remains behind.—*Medical Times and Gazette, Dec.* 13, 1884, *p.* 808.

[Mr. Teale's paper on the operative treatment of scrofulous neck will be found in the surgical section of this volume.—Ed.]

10.—ON THE MANAGEMENT OF CHILDREN BORN OF STRUMOUS PARENTS.

By I. Burney Yeo, M.D., Physician to King's College Hospital.

An infant born with an hereditary tendency to phthisis will require the most careful management. On no account should a mother with phthisical tendencies be allowed to suckle her off-spring. There is danger in this to both mother and child. There is danger of injury to the nutrition of the mother by the tax which lactation imposes on a feeble organisation, and there is danger to the infant that the mammary secretions, in such cases, may be vitiated and imperfect. For such infants a vigorous and healthy wet-nurse should be selected, and if possible it should be brought up in the free, open air of the country, rather than in the confined atmosphere of crowded cities. Frequent exposure, carefully protected, however, from chill or from too rigorous weather, to pure air and sunshine, and residence in well ventilated but sufficiently warm apartments by night and by day, are of much importance to such infants. Their chest and limbs should not be cramped by any tightly-fitting garments, but allowed perfect freedom of movement. The nurse should be particularly cautioned against allowing awkward attitudes, and attitudes which tend to compress the chest and to hinder its free expansion. The reclining position is best for the weakly infant, so that the weight of the head and shoulders is not thrown on the front of the chest or on the spine, as is sometimes the case when the child is carried much in the nurse's arms.

Attempts should early be made to ward off that morbid sensitiveness and vulnerability of the cutaneous surface so common in those predisposed to phthisis, and which is, in a measure, the index of, and provocative to, bronchial sensitiveness and irritability; and without making any rash and risky attempts at hardening, such as some have advised, and which, when they do no harm, probably do much good, we may yet even in the early months of infant life adopt mildly bracing measures, which may afterwards give place to a more vigorous hardening system. For this purpose it is a good plan, after the child's morning bath, to sponge over the surface of the body rapidly with cold sea-water, or water containing sea-salt, to which a tablespoonful or two of spirits of wine or Eau de Cologne have been added. The infant should, of course, be quickly dried, and it will usually be found that this process has a bracing and invigorating effect, especially stimulating to the functions of respiration. It should be remembered in this connection, that a certain amount of crying is not injurious to an infant, but is often a useful gymnastic exercise to the respiratory organs, leading to a more complete ventilation and expansion of the lungs than ordinary breathing ensures.

When it is impracticable to obtain a wet-nurse, the child should be given perfectly fresh cow's milk, boiled, slightly diluted with water, and to which a little sugar of milk may be added. At the period of teething a little beef tea may be added to the milk, and if dentition be tardy or difficult, some preparation of lime is useful. When, as is the case with some delicate infants, the casein of the milk coagulates into a firm indigestible curdy mass in the stomach, and sets up vomiting and diarrhœa, an excellent food is made by mixing three parts of whey with one of beef tea, and thickening with a little arrow-root.

More than ordinary care is needed in watching these children through the common ailments of childhood, and especially in measles and hooping-cough as well as in scarlet fever. Measles and hooping-cough are especially dangerous to such children, for the catarrhal and congestive attacks of the respiratory organs, which so constantly accompany these affections, are prone to linger and degenerate into, or predispose to incurable pulmonary mischief.

After weaning, which should not be too long delayed, milk should still form the chief part of the child's food, and the digestion of the food should be carefully watched. Any tendency which may manifest itself to acidity, flatulence, vomiting, or diarrhœa, should lead to a careful revision of the diet. By degrees, a small amount of animal food, which, until the child has thoroughly learnt to masticate, should always be reduced to a finely divided or pulpy condition, may be introduced. All excess of saccharine substances should be avoided, as tending to set up acid fermentations. As soon as the child begins to take bread-stuffs, it is highly advisable not to use the over refined wheaten bread, but the *decorticated whole wheat meal bread* is much more suited to the nutrient needs of the growing child. (The flour for making this bread can be obtained of Pimm & Co., Upper Mills, Wandsworth.)

With respect to the administration of stimulants to such young and delicate children, mnch difference of opinion exists. It is desirable to have no prejudices or predilections on this head. There are many, probably the majority, of such children, who positively dislike all stimulating drinks, and resist taking them. I would not press them upon these; but there are other, feeble, lymphatic, pale children, to whom a small quantity of wine or sound beer seems to serve as a remarkable aid to nutrition; and we must be cautious how we allow any theoretical or sentimental objections to alcoholic stimulants of all kinds to interfere with the chief duty which here lies before us, viz., to maintain nutritive activity whenever it shows any tendency to be lowered. I consider a small quantity of good sound beer more useful than wine, but of wines I prefer a little sound Burgundy with water, or one or other of the well selected red Hungarian wines. It is only in very exceptional cases that so strong a wine as port is advisable. In these cases the wine must be regarded as a medicine as well as a food. Hoff's malt extract may serve as a substitute for beer.

As the child advances in years, when it has reached 5 or 6 years of age, judicious and careful attempts to brace and harden the constitution should be systematically prosecuted. For this purpose, free exercise in the open air, wisely devised gymnastic exercises, together with the use of cold sponging, cold affusion, or cold douches, should be daily employed. The gymnastic exercises should have for their object the complete development and expansion of the chest so as to lead to the thorough inflation and ventilation of all parts of the lung, the strengthening of the respiratory muscles and the development of the muscular system generally, and the correction thereby of faulty attitudes and positions. But these exercises must not be carried to the length of causing fatigue or exciting any feverish reaction. It should always be borne in mind that their object is to promote healthy nutrition; if they excite or fatigue, they must be modified or discontinued. We have already alluded to the value of cold affusion in lessening that sensitiveness of the surface which proves often so serious a trouble in after life, while as a direct stimulant of the respiratory function it is also of great value. It is needless to insist that cold affusion and cold douches must be applied with great care and caution to delicate children. The process of accustoming them to this treatment must be a gentle and gradual one, and it must be particularly noted whether they re-act well to this stimulant or not; if it should cause chilliness or languor and drowsiness, it had better be discontinued. The warm weather of summer is, of course, the best season for initiating this treatment, and when once it is established it may be continued throughout the year, but in the cold season it should always be applied in a *warm* apartment.

It is also necessary to watch the education and school-life of such children closely. Close application to study in crowded schoolrooms must be positively forbidden; overtaxing the mental powers must be carefully provided against; sharing in athletic games which, while they tend to injuriously excite the circulation, expose also to the danger of chill after such excitement, must be strictly excluded; and all faulty attitudes and positions during school studies should be corrected. R. Liebreich has invented a chair for school purposes, intended to correct the faulty attitude so frequently assumed by pupils in schools, and also a couch for reading, which seems to me well calculated not only to support the back, but also to take the weight of the arms and shoulders off the upper part of the body; for when these are allowed to hang forward, as in the stooping attitude which becomes habitual to many young people, they compress the upper part of the chest, and prevent due expansion of the apices of the lungs. (To be obtained of Callaghan, Bond-street.)—*Medical Times, Dec.* 6, 1884, *p.* 772.

11.—DISINFECTION OF CLOTHES AND LINEN BY WASHING

By Jas. B. Russell, M.D., Med. Officer of Health, Glasgow.

The contagia in a washable garment are bulky from their attachment to animal debris. If we take a new sponge, by continuous washing in water we get rid ultimately of every particle of sand.

If we take a sheet, for example, or a blanket smeared with the pus of small-pox, and, carrying it to a freely flowing stream, soak it, beat it, rinse it back and forward in the stream, wring it and again immerse, and so proceed for a sufficient time, there can be no doubt that ultimately we shall completely disinfect it. The pus and variolous contagia will flow down stream, and be effectually disposed of by dilution and oxidation; and by the mere mechanical use of water the article is disinfected. This is the rudest form of washing. The ordinary process, I need scarcely say, is even mechanically much more efficient. The element of heat also comes into play. In any degree, with the added soap and soda, it promotes the solution and thorough moistening of the animal debris, strips the contagia, so to speak, of their protecting envelopes, and initiates the final process of destruction. If the nature of the tissue to be washed permits boiling, then we have perfect disinfection, as no contagium survives a moist temperature of 212° F. Therefore, whenever we can subject any article to the domestic process of washing with boiling, we can perfectly disinfect it.

So much by way of reasoning on general principles in proof of the efficiency of simple washing as a disinfecting process. I am able to establish my opinion from the experience of many years, during which this has been the sole method of disinfection applied by the Sanitary Department of Glasgow to all washable articles. We have during the last ten years washed in the same washing-house over a million of articles of every sort, infected by every variety of contagium known in this country. Everything has been done exactly as any good housewife would do it, only in a place provided for the purpose, and with ample supply of water and steam, and recently with mechanical aid. Blankets and woollen articles have not been boiled, all others have. The most crucial fact is this, that there has never been a single case, or suspicion of a case, of interchanged disease, *e. g.*, of small-pox appearing in a house from which clothes had been removed on account of scarlet fever or typhus. In short, I am convinced that in every case the result was obtained for which the operation of washing was undertaken. The only defect is this, that the washerwomen must handle the articles before disinfection or drowning of the contagia in water, and therefore are occasionally infected. To overcome this difficulty, we lately had erected an apparatus to disinfect by high pressure steam before disturbing the bundles; but this at once brought about complaints of injury to the clothing, which would soon have wrecked our popularity with the housewives and obstructed our operations. We found that the steam fixed all sorts of stains from animal matter. A sheet stained with blood comes out of a dull red colour which nothing will remove. Indeed, this application of steam is a part of the trade process of dyeing. Every woman knows that cloth stained with blood must be steeped and rinsed in cold water before ordinary washing. The practical result is, that dirty clothes must be disinfected by washing before being disinfected by steam or dry heat, for that also fixes stains. We are, therefore, again disinfecting all washable articles by simple washing. In spite of this ample experience, in view of the salamander-like behaviour of spores in resisting dry heat, according to the experiments of eminent biologists, it was with a sense of relief that, two years ago, I read the papers of Koch and Wolfhügel on the comparative disinfecting value of dry heat and steam. They were asked to advise the Government as to the best form of disinfecting apparatus by heat. By experiments of such convincing accuracy as might be expected under such guidance, they proved that, by direct application of steam at 212° F. for five to ten minutes, even the virulence of dried anthrax blood was destroyed. Earth spores, which have a reputation for tenacity of life at high temperatures beyond all others, were devitalised by fifteen minutes' exposure to steam, while they resisted the action of dry heat continued for three or four hours at 302° F. Koch proved also that the penetrating power of steam, even at atmospheric pressure, was immensely superior to that of dry heat. He therefore reported that, whenever heat can be applied to disinfection, there is no method equal to the use of steam, applied so that it may reach the articles to be disinfected at its initial temperature, 212° F. The boiling point of saline solutions is higher than that of pure water, *e.g.*, 30 per cent of common salt raises the boiling point to 224° F. Nitrate of potash and chloride of calcium raise it much higher. The dry heat stoves in Berlin have consequently been reconstructed for the application of steam; and I believe that in Paris the municipality is now effecting the same change in the district disinfecting stoves of that city. It must be observed that, though washable articles are so easily disinfected, the process must be carried out either in a private washing-house or in a public washing-house devoted solely to that use. Wherever it is done there must be abundance of water, both hot and cold. Therefore, the use of washing-houses which are not private is not permissible; and, in the hands of a slovenly person who makes a puddle of her washing-tub, still more of one who has no tub and no appliances, no washing can be efficient for disinfecting.

As to hair and wool, I am satisfied that mere mechanical disinfection with cold water and soap, which does not remove the natural grease and so impair the material, is thoroughly effective. There must be a constant flow of water, and a thorough disturbance and agitation of the fibres. After this process, and washing of the tick, the whole can be sent to an upholsterer to remake.

Any article which is impregnated with dry contagia need not be fumigated, even if the tissue will resist corrosion or the colour not be cast. We cannot have confidence that any gas will penetrate the dry organic envelopes. Our only resource again is mechanical —beating, shaking, brushing, with exposure for as long a period as possible to the free circulation of air and direct sunlight. In populous places this cannot be done at the domicile with safety. In the country it may. Carpets are the chief representatives of this class of articles which come into our hands. We have a carpet-beating machine, which is ventilated into a furnace to which all dust is conveyed. Afterwards they are dragged over the grass, and hung up in the open air for a time. In the case of mattresses, pillows, and the like, which are not visibly soiled, we employ steam disinfection, which is also useful in the treatment of clothing of good quality which is not soiled, or which cannot with safety be washed.

As to apartments which have been occupied by a patient during an infectious illness, you may fumigate if you will, but a thorough domestic cleaning is the best mode of disinfection, renewing wall-surfaces which are dirty, washing down paint, rubbing up furniture, burning all dust, and letting the air play freely through open doors and windows as long as possible. I believe that the municipal disinfecting apparatus of the future will be a large washing and cleaning establishment, comprising in its various departments, besides a washing-house provided with the best mechanical aids, a hair and wool washing and feather-steaming, and carpet-beating apparatus. The processes to which the various articles and materials are subjected in cleaning, as presently carried out as ordinary businesses in towns, are all disinfecting. They merely require to be transferred to places set apart for infected goods outside the inhabited area.—*Glasgow Medical Journal, Dec.* 1884, *p.* 408.

DISEASES OF THE NERVOUS SYSTEM.

12.—ON ALCOHOLIC PARALYSIS.

By Professor Charcot, Physician to the Salpêtrière, Paris.

The etiology of alcoholic paralysis need not detain us for long; but I must insist upon the fact that the prior history of the cases will have to be sought for; as in the early periods it is very difficult to obtain an avowal, while when the affection is constituted it becomes associated with a mental condition to which I will return. Can we incriminate one form of alcoholic drink rather than another? That is very improbable; but what is more certain is that women are far oftener the victims of the disease than men; and the drinkers in high life who take only the choicest spirits are affected as well as women of the lower classes who can get only the very worst. The manner in which the disease commences is almost always the same. Besides the other symptoms characteristic of alcoholic intoxication (and among which I may specify especially the *nocturnal dreams*, with their nightmares and frightful visions), one of the first indications of this form of paralysis seems to consist in the appearance of *vivid pains*, which are especially felt in the lower extremities. These pains sometimes nearly resemble those which are met with in the first stage of locomotor ataxy, consisting in prickling formications, lancinating and true fulgurant pains which traverse the limbs, occurring chiefly at night. So that the patients in apprehension of them regard with terror the period of nocturnal repose, which is interrupted by fearful hallucinations during sleep, and by cruel pains during the hours of wakefulness. These pains soon become generalised, occupying *symmetrically* the two lower limbs by preference, and accompanied by cutaneous anæsthesia, they invade the upper extremities; and after a certain time, varying in different cases, give place to a new phenomenon—analgesia. The sensation of cold, of heat, or of punctures, is no longer felt in the limbs attacked, and contact with the ground is not perceived. It is then that motor paralysis supervenes, which is also symmetrical and affects the upper and lower extremities, especially the latter, influencing by preference certain groups of muscles, namely, the extensors. "Look at these two women, seated on chairs slightly raised, and you observe their feet hanging inert, without any possibility of their raising the points. The patella reflex (as observed by Dr. Glynn, in the *Liverpool Medico-Chirurgical Journal*, July, 1883) is abolished. In one of them you find that the extensors of the two forearms are invaded, although in a lesser degree, but in neither of them the muscles of the trunk, as sometimes occurs, are seized. As to the muscles of the face, the alcohol seems always to respect them. On this occasion I wish to draw your attention to a peculiarity, of which these women furnish a striking example. Examine their feet and legs, and you will see the *vaso-motor phenomena* which are being produced—the diffused red or sometimes violaceous colour, and the peri-malleolar doughiness, which almost constantly exists, without the urine furnishing any satisfactory explanation. At other times there are local sweatings of the hands or feet, which appear suddenly and cease in the same manner, or there are alternating paleness and redness. Finally, at the end of a certain time, there are formed amidst these equine-shaped feet fibrous adhesions of the tendons and thickening of the connective tissue which surrounds the tibio-tarsal articulation, adhesions which render the restoration of the normal movements of the feet impossible. If these patients recover, a surgical operation will probably be necessary. You perceive, moreover, that the paralysed muscles are softened, and I am able to inform you that their electrical excitability is notably diminished.—*Medical Times and Gazette, Nov.* 1, 1884, *p.* 623.

13.—ON A FORM OF ALCOHOLIC SPINAL PARALYSIS.

By W. H. Broadbent, M.D., F.R.C.P., Physician to St. Mary's Hospital, London.

Several cases of a remarkable form of spinal paralysis have come under my notice at different times, but, with the exception of the first, which occurred in St. Mary's Hospital when I was resident medical officer there, the patients have been seen in consultation once only, and no *post-mortem* examination has been obtained, so that it has been impossible to give anything like a complete and connected account of the disease.

[This, however, the writer is now able to do through the zealous co-operation of Dr. Harrison, of Shepherd's Bush, and one *post mortem* examination has been obtained. After relating this case fully, and four others with less detail, Dr. Broadbent observes:]

There is first gradually increasing weakness of the lower extremities which may be noted for some time, when marked loss of power becomes manifest in the extensor muscles of the forearm giving rise to double drop-wrist. It cannot be said that when this is first apparent there is no distinct paralysis elsewhere; the lower extremities and the back are weak, but the drop-wrist may be complete, and the flexors of the hand may also be paralysed so that the hand is like a flail, while the movements of the elbow and shoulder are good and fairly vigorous, and the patient can support himself on his feet. As the paralysis advances all the muscles of both upper and lower extremities are affected, and the limbs can only just be moved, the arms being as a rule more seriously implicated than the legs; the muscles of the trunk also are paralysed so that the patient cannot raise himself or turn in bed. The sphincters retain their functional power, and sensation is not affected. There is no pain from first to last, though the muscles may be tender on handling. An exception to these statements, however, is furnished by the case last seen. No convulsion or jactitation occurs.

Death is caused eventually by paralysis of the respiratory muscles, and the diaphragm is the first of these to be affected. Instead of descending during inspiration it remains flaccid and is forced upwards by atmospheric pressure on the abdomen; in expiration the reverse of this takes place, so that the chest and abdomen no longer act together in respiration, rising and falling simultaneously, but their movements alternate. As the chest expands the abdomen falls in, and as the chest contracts the abdomen is protruded. The thoracic movements proper are the more energetic in order to compensate for the loss of the diaphragmatic respiration, so that the see-saw action of the chest and abdomen is very conspicuous, and at first there is actual expansion of the lower segment of the chest. Later the muscles of the chest become affected, apparently from below upwards, when, of course, death ensues from apnœa.

A striking feature of this form of paralysis is the loss of tone in the capillaries. The capillaries yield and permit themselves to be distended. It is the degree of capillary paralysis which is remarkable, and the early period at which it is observed; almost all paralysed limbs swell when allowed to remain long in a dependent position, but in no other form of paralysis is the stagnation of blood so complete and immediate or the swelling so rapid, and it is to be noted that this is observed when the loss of power is not very considerable.

There can be no question as to the seat of the disease giving rise to the symptoms described; this is obviously the spinal cord. As to its nature no discussion is required to exclude myelitis, diffuse or localised. Very brief consideration again is sufficient to show that the affection is not so-called acute anterior poliomyelitis occurring in adults; the regressive paralysis of Dr. Barlow, which is never fatal by paralysis of the respiratory muscles; it is strikingly progressive instead of being regressive. The disease which it most resembles is acute ascending paralysis, and it is probable that the condition of the cord is essentially similar, no lesions being discoverable by any mode of preparation at present known. The features common to the two are the progressive advance of the paralysis till death is brought about by paralysis of the respiratory muscles; the absence of fever or pain or spasm; the fact that sensation is not affected, and that the sphincters retain their functional activity. The principal difference is the order in which the muscles are invaded.

In acute ascending paralysis the legs are first affected and the loss of power gradually extends from below upwards; this becomes particularly noticeable when the chest is reached; the intercostals are first attacked and respiration is carried on by the diaphragm after the thorax has become motionless. The only case of acute ascending paralysis which I have seen presented a very different clinical picture when the stage of dyspnœa was reached to that observed in these cases. The patient could not lie down, but insisted on being supported in the sitting posture with the arms well raised by attendants so as to draw up the chest, while the head, which the neck was no longer able to support, had to be steadied and prevented from falling forwards or to one side; another difference appears to be that acute ascending paralysis is more common in men than in women. The cases collected by Erb are twelve men and four women, while alcoholic spinal paralysis is more frequently seen in women. I find no note by observers of loss of tone in the capillaries in acute ascending paralysis, and I did not remark it in the case I first saw.

Admitting the similarity between the condition under consideration and acute ascending paralysis, I think the difference sufficiently marked and constant to warrant a distinction by means of a name. This name I should take from the etiology. In all the cases which have come under my observation there has been excessive indulgence in alcohol, and I have no hesitation in assigning this as the cause of the disease, the alcohol exerting an influence on the grey matter of the spinal cord probably similar to that which in the brain gives rise to delirium tremens.

A point worthy of note is that in all the cases except that which forms the subject of this paper and that seen since it was written the patients were women. It is not probable, however, that sex is the factor which determines the direction taken by the injurious effects of alcohol. The affection of the spinal cord does not apparently occur among the women who are admitted into hospitals, or it would have been frequently observed and described; that is, it does not occur in women who have to work for their living or who have laborious domestic duties. It would appear that unrestricted access to stimulants throughout the entire day, and an indoor inactive mode of life, were the conditions which together invited the disease; these were just the conditions common to the five women and two men who have come under my observation.—*Medico-Churugical Transactions*, 1884, *p.* 133.

14.—ON THE TREATMENT OF MIGRAINE.

By T. Clifford Allbutt, M.D., F.R.S., Consulting Physician to the Leeds General Infirmary.

To me migraine seems to be one of the many ways in which sudden discharges of energy take place at more or less regular intervals, and in obedience to more or less inadequate irritations, which discharges are due to exhaustion or defect of volume in superior inhibitory centres. Migraine is a malady of neurotic persons, and a neurotic person is one who inherits relative incapacity of one or many nerve centres. We are unable to say which centre or system of centres is of defective volume in migraine, but seeing that signs of exhaustion are found in the head, speech organs, special senses, and if in the limbs generally of one side only, we may presume that the defective control is somewhere in one cerebral hemisphere. Most sufferers from migraine suffer on one side only, some on either side, but these have usually a "favourite side." In others the attacks are bilateral, vertical or occipital, or vary in position, often beginning in the occiput, passing over the vertex and finally settling in one temple and eyeball. In one of my cases the attack begins just behind the left mastoid process in a limited spot like clavus; this is a hereditary case, and vomiting occurs. The treatment of migraine is not so blank a page as many writers would say that it is. Too often we are impotent to relieve a patient in his misery, but we may do much to postpone and diminish the seizures. In the epileptic fit we can do little; our hope lies in prevention. Still, even in the attack of migraine we are not without resources. I shall not enlarge on the usual domestic expedients—on the quiet room, the easy posture, the loose dress, the feet in hot mustard and water, and so forth; but of drugs proper, two have seemed to me to be useful. In some cases guarana is as signally successful as it is helpless in others. In those it has often restored patients of mine to the duties and pleasures of life who were almost crushed by recurrent migraine. It answers best in the cases which begin with some slight warning in the early day. Guarana thus given in two or three doses at short intervals often cuts short an attack or wards it off altogether. Pure caffeine ought theoretically to have the same effect, but I have not carefully compared the two agents. The other drug is croton chloral, used in like repeated doses up to about 20 grains in all. In some persons migraine may begin at any hour and may begin suddenly; in others it continues 30, 40, or 50 hours, the patient meanwhile lying in a semi-conscious state of helpless misery. For such states we have no help. Ergot, nitroglycerine, nitrite of amyl, have not helped me much, but these drugs have able advocates, nevertheless. Indeed, as Burton says, "The manner of living is more to the purpose than whatsoever can be drawn from the most pretious boxes of the Apothecary." Looking upon migraine, as I do, as a defect of development, and seeing it, as we all see it, as a disorder taking its origin in childhood, we must base our hopes of cure upon a healthful life, a healthful growth, and a healthful education. The principles of such a method of rearing neurotic children, and the terrible consequences of neglecting these measures, have been set forth with singular clearness and wisdom by Anstie, and I have not a word to add to his teaching.

Dr. Eustace Smith, an able and practical physician, finds that a combination of ergot and strychnia is of great value in addition to means of a more general kind. Dr. Ross also relies greatly upon ergot.

When we have to deal with the fixed morbid habits of adult life, we can no longer hope to eradicate the tendency to migraine by promoting equable encephalic development; we have now to do with a finished machine, but yet with a machine not incapable of modification.

The great rule for the migrainous is an even life—a course of life which makes no rapid and no excessive demand upon nervous expenditure, and which favours steadiness of nervous action by an almost slavish adherence to routine. If an unwonted indulgence at table will cause a migraine, so will an unwonted abstinence from food. Sleep, work, food, must, both in quality, quantity, and time, be regulated with such care that the nervous functions may be impressed with a like uniformity. In women the catamenial period disturbs this serenity of conditions. Migraine has no essential connection with uterine changes, for a woman who has "catamenial migraine," as it is sometimes called, may inherit it from her father and transmit it to her son; indeed, such a transfer of sex is in my experience very common. The catamenia only set up the migraine as any other oscillation may set it up—as a dyspepsia may do it, or an annoyance, or an unusual effort. The migraine, indeed, bears no definite relation to the flow; in some patients it precedes the flow, in some it accompanies, and in some it follows it. Menorrhagia and leucorrhœa are, of course, common abettors of migraine, but by virtue only of their general tendency to bring about anæmia and exhaustion. When in respect of healthy home and climate, and a regular mode of life, we have put our patient under favourable circumstances, we must search in no routine spirit for any defect of nutrition or disordered part or function which may exist. If we are satisfied that all these matters are cleared up and set in order, we may turn to specific remedies. In my hands a combination of bromides with quinine has, on the whole, and in a great number of cases, answered best. After this come cannabis indica and ergot, and after these chloride of ammonium. Arsenic, advised by Watson, has answered well with me in some cases, but not, I think, better than strychnia and such general remedies as the compound tonic syrups, and so forth. One more important point remains. Piorry pointed out, thirty years ago, that migraine was sometimes due to the strain of some local defect in the eye, although he was necessarily then without more precise knowledge of these defects. That headaches—severe and recurrent headaches—are often to be traced to such defects is now well known, but Mr. Hewetson, of Leeds, on a recent occasion produced several patients who had been cured of migraine properly so-called, by correction of astigmatism. Mr. Hewetson's paper was a remarkable one, and his statements require the closest attention. Migraine, however, spares no rank and no age, and has had in the past no fewer victims among the illiterate than among the learned. Dr. Liveing has suggested that even epilepsy itself may be excited by optic defects in persons so disposed; in any case the researches of the next few years will do much to enlighten us on these points, and I trust to increase our power of relieving one of the most harassing of the minor ills of mankind.—*Medical Times and Gazette, Feb.* 14, 1885, *p.* 207.

15.—THE ACTION OF PARALDEHYDE, THE NEW HYPNOTIC.

By S. A. K. Strahan, M.D., Assistant Medical Officer, County Asylum, Northampton.

Paraldehyde, which was first used as a therapeutic agent by Dr. Cervello, of Palermo, some eighteen months ago, has not received in this country the attention it deserves. As a sleep-producer it stands in the same rank with chloral; while in anything like moderate doses it approaches in safety that safest of all sedatives, bromide of potassium. I have employed it over 150 times in about twenty-five cases, and have found but two patients who did not respond to medium doses of the drug. One of these was suffering from acute mania, and the other from severe facial neuralgia. I have given it in mania, acute and chronic, melancholia, dementia, the various stages of general paralysis, during those periods of restlessness and sleeplessness so often met with in idiots and imbeciles, and in simple insomnia, and have found it almost invariably a certain somniferent. Paraldehyde acts more quickly than chloral. When a dose is taken, a feeling of warmth, a kind of grateful glow, is experienced, and the patient is often asleep within ten or fifteen minutes. When it does not produce sleep it does not excite, but rather tends to soothe and calm an excited or depressed patient.

The sleep induced by paraldehyde is, I think, a nearer approach to natural sleep than that obtained by the administration of any other drug. It is light, apparently dreamless, and certainly refreshing; the patient can at any time be awakened by a loud word or a gentle shake, and when so aroused does not display any alarm or confusion of ideas, and if left alone at once falls to sleep again. During this sleep the breathing is somewhat slower and deeper than in the waking hours, while the pulse becomes slightly less rapid, and possibly stronger. The temperature (surface) is not changed, the flow of urine is increased, and the skin is not affected. No headache or other unpleasant symptom is experienced on waking, and the appetite is not injured even by the daily exhibition of the drug for considerable periods—in one of my cases for over three weeks.

The dose is from thirty to ninety minims, but more than sixty drops is seldom required to induce sleep; and this, or even a smaller dose, repeated within an hour, is much more effective than a single large dose. The paraldehyde is best given as its first administrators recommend –that is, with a bitter tincture in sweetened water. It has a pungent taste, but a drachm when combined with fifteen drops of tincture of orange and an ounce or more of water sweetened with syrup makes a not unpleasant draught, never in my experience causing nausea or vomiting. The drug is given off principally or wholly by the lungs, and may easily be detected in the breath for ten, twelve, or more hours.

To sum up now all that can be said in favour of this drug. It is an equally sure hypnotic with chloral, it does not in any case produce excitement before sleep, it leaves no headache nor other unpleasant symptom on awaking, and it does not affect the appetite. These are all matters of not slight importance, but there is one advantage which this drug possesses over chloral which at once gives it a place among our most useful hypnotics, and that is the absence of any depressing or paralysing action on the heart. This absence of action upon the cardiac centre permits of its being given with perfect safety to general paralytics and others to whom chloral would only be given with the greatest caution and with constant anxiety as to the result of even small doses. The new drug may not take the place of chloral in everyday prescribing, but it must supplant it in those, unhappily numerous, cases in which the action of the sedative upon the heart is to be feared, and yet where sleep is often so much to be desired.

Paraldehyde may yet be found to be possessed of other useful properties. I have given it in a few cases of facial neuralgia. In two cases it acted like a charm, while in all the others its effect was *nil.* I have also found it useful in a case of "nervous headache."—*Lancet, Jan.* 31, 1885, *p.* 201.

16.—ON COCAINE: THE NEW LOCAL ANÆSTHETIC.

By William Murrell, M.D., London.

The literature of this subject has already attained such extensive proportions that it is no easy matter to cope with it. Cocaine appears to have been first isolated and extracted from the leaves of the coca plant (*Erythroxylon coca*) by Niemann in 1860, although some would claim the honour for Gadeke. In 1862, Lossen discovered in the same leaves a second principle which was named hygrin, and was found to be of a volatile nature. The other constituents of the plant are ecgonine, coca-tannin, and a peculiar wax. It is said that the yield of cocaine from the leaves is not more than from 0·02 to 0·2 per cent.

Cocaine has a bitterish taste, and crystallises in shining monoclinic prisms. Its chemical formula is $C_{17} H_{21} NO_4$. It is soluble in 704 parts of water, and also dissolves readily in alcohol, chloroform, ether, oil of cloves, vaseline, and castor-oil. When treated with strong hydrochloric acid, it forms ecgonin. It unites with acid to form salts, the best known being the hydrochlorate, the citrate, the salicylate, the nitrate, the sulphate, the oxalate, and the tannate. The muriate or hydrochlorate is the salt in common use. It consists of small, white needle-shaped crystals, which in some specimens are so minute that the powder appears to be amorphous. It has a peculiar characteristic odour, and is soluble in water (1 in 4) and in alcohol. It possesses antiseptic properties, a 5 per cent. aqueous solution delaying the putrefaction of meat for some days. The citrate occurs in the form of small white crystals, and is the salt best adapted for dental operations.

Respecting the physiological action of the drug, it may be said that comparatively little is known. Niemann, as long ago as 1860, noted the fact that when applied to the tongue it produced anæsthesia. Schroff, in 1862, found that doses of 5 centigrammes administered to rabbits gave rise to disturbance of pulse and respiration, and also produced temporary mydriasis. Fronmüller, a year later, showed that doses of 3 to 33 centigrammes caused in man little or no disturbance. In 1874, Dr. Hughes Bennett published his well-known experimental inquiry into the physiological actions of theine, caffeine, guaranine, cocaine, and theobromine, and demonstrated that cocaine exerted its influence chiefly on the sensory nerves, and was an anæsthetic. In 1876, Dr. Ott published a paper on cocaine, and showed that it dilated the pupil. These observations, however, appear to have been forgotten; and although various preparations of coca have been largely employed as therapeutic agents, the active principle itself was rarely used, and its very existence was probably unknown to the majority of medical practitioners. Suddenly, however, the whole aspect of affairs was changed. On Sept. 15, 1884—a date long to be remembered in the annals of therapeutics—Dr. Karl Koller, of Vienna, demonstrated through his friend Dr. Brettauer of Trieste, at the Ophthalmological Congress at Heidelberg, the action of a solution of cocaine when applied to the eye. Dr. Koller, it appears, had long been aware that cocaine acted as a local anæsthetic to the larynx, and it occurred to him that similar results might be obtained if it were used for other mucous membranes. At the Heidelberg Clinic two drops of the solution were dropped into the eye of a patient experimentally, and in a few minutes it was noticed that the sensitiveness of the surface was below normal. A drop or two more and the anæsthesia was complete; a probe was pressed upon the cornea until its surface was indented, it was rubbed over the surface of the cornea, it was rubbed over the conjunctiva, a speculum was introduced and separated the lids, and they were stretched to their utmost, the conjunctiva was seized with a pair of forceps, and the globe was moved about in various directions, but there was no pain, and the patient declared that he experienced no inconvenience of any kind. Before the experiment the eye had been tested, and was shown to possess the normal sensitiveness; the other eye, which was not treated, remained in this respect perfectly normal. At first a 2 per cent. solution was used, but subsequently it was increased to 4 per cent.

A knowledge of this wonderful discovery spread quickly, and in a few days there were hundreds of workers in the field which had been so suddenly opened to them. Cocaine was dropped into the eye, rubbed into the skin, applied to the larynx and pharynx, and even injected into the rectum and vagina. The price of the drug rose rapidly, and physicians were found only too pleased to pay half-a-crown a grain for the privilege of trying it. Every one seemed anxious to do something to associate his name, in however small a degree, with so momentous a discovery. The result has been the publication of a host of papers and articles, many of them displaying only too obviously the signs of haste and crude experimentation.

Professor Agnew, of New York, in recording his experience, says:—"We have used the new agent in our clinic, at the College of Physicians and Surgeons, with most astonishing and satisfactory results. If its further use should prove to be equally satisfactory, we shall find that we possess an agent for the prevention of suffering in ophthalmic operations of inestimable value. It is difficult to avoid expressions of extreme enthusiasm in view of what we have to-day seen, and in view of what we may rationally expect from further applications of the agent." He gives details of six cases in which various operations on the eye were performed with no other anæsthetic than cocaine, the results in every case being most satisfactory.

Professor Knapp, of New York, as the result of observations made on himself and members of his family with a 4 per cent. solution, found that cocaine possesses well-marked mydriatic properties. The pupil begins to dilate in from ten to twenty minutes, increases slowly in size, attains its maximum in from thirty to forty-five minutes, and then slowly diminishes. The diminution of sensibility becomes manifest in about three minutes, increases for from ten to twenty minutes, then decreases, and is over in about half an hour. The range of accommodation is shortened, the near point being moved from the eye whilst the far point is stationary. Similar results have been obtained by Dr. William Oliver Moore, Dr. James L. Minor, Dr. E. O. Shakespeare, Professor William Thomson, and Dr. R. J. Levis, of New York; by Dr. Bradford, of Boston; by Mr. Cowell, Mr. Anderson Critchett, and Mr. Juler, of London; and by Professor Gayet, of Lyons. Many of these gentlemen have performed important operations under its influence.

Dr. St. John Roosa, Dr. Semon, Dr. Goodhart, and other observers, have used it to produce anæsthesia of the larynx, pharynx, and other parts, and one and all declare that the effects are most remarkable. In many forms of ear-disease it has been found especially beneficial Mr. Brock and Mr. Arkle, of University College Hospital, London, have used it hypodermically in two minor operations, and speak well of it. In cases of supra-orbital neuralgia, a 10 or even a 20 per cent. solution in oil of cloves rubbed into the part affords almost immediate relief. There is no case of poisoning on record, and in one instance a gramme and a half produced very little effect. There can be no doubt that it is a most useful remedy, and that it will prove of great value in the treatment of a large number of painful affections.—*London Medical Record, Dec.* 1884, *p.* 516.

DISEASES OF THE ORGANS OF CIRCULATION.

17.—ON A CASE OF PROBABLE THROMBOSIS OF THE SUPERIOR MESENTERIC AND RENAL VEINS.

By Sir William W. Gull, Bart., M.D., D.C.L., F.R.S.,
Consulting Physician to Guy's Hospital.

There are points in the following case which are in my experience unique. It was one of copious intestinal hemorrhage, without fever, followed after some days by the evacuation of portions, more or less complete, of a dozen or more of the valvulæ conniventes. The patient recovered, and after a period of four years is now in what appears to be good health, and at least without any further intestinal symptoms.

On the 12th of October, 1879, I was requested by my friend Mr. Venning to see this case with him, in conjunction with Mr. Worship, of Sevenoaks. The patient was a young gentleman, æt. 23, suddenly suffering from very profuse intestinal hemorrhage. The onset of the symptoms was unexpected and began with *very severe pain in the abdomen*, which appeared to be relieved by a warm bath; and then followed the hemorrhage. There was slight sickness, but no hæmatemesis. The patient was apparently well up to the sudden attack of pain, eating and drinking as usual, only that some days before there had been some slight and transient œdema of the right hand and part of the forearm, which could not well be accounted for, and which had disappeared at the time of the attack. The œdema was vaguely though probably truly referred to a secondary taint, a primary sore having been contracted five months before; but secondary spots on the skin were doubtful.

On passing the intestinal evacuation of blood from one vessel to another, it was noticeable that it varied in colour, from the darkest venous with black coagula, to that of a lighter tint, indicating that the bleeding surface was extensive and high up in the intestine. The warm bath appeared to have given great relief, and the patient expressed himself as feeling as if something had been set free by it, but this relief was probably due to the hemorrhage.

The question which naturally engaged the attention of my colleagues and myself was, as to the pathological cause. There had been no fever, no previous illness, and nothing complained of, but the slight transient œdema mentioned as occurring a few days before. The conclusion was, that the cause was mechanical, and one that obstructed the mesenteric vein high up. The severe pain, the bleeding, and the character of the blood, favoured this opinion as to the seat of the obstruction. It was conjectured, also, that the obstructing cause was outside the vessel, and might be a gummatous deposit. Whether it were so or not, cannot be settled, though the subsequent history supported this opinion. Assuming it to be so, it was to be expected that other veins in the neighbourhood, as the renal veins, would suffer; and this subsequently occurred. The urine at the time of the attack was carefully examined. It was pale, sp. gr. 1015, slightly opalescent by heat and nitric acid.

On the night of the 15th, three days after the attack, the patient fell into a state of sudden collapse, and became almost pulseless. The following day the temperature was 100·8°, pulse 108, abdomen tympanitic, constant vomiting, ejecta bilious without blood, great thirst. On the 17th, symptoms less urgent, urine with even less evidence of albumen, temperature 99·4°, pulse 90. On the 18th, pulse 84, no sickness, evacuations bilious and without blood; the two previous days they had been melænous. Urine darker in colour, sp. gr. 1020, a large amount of albumen. On the 20th and 21st, sloughs of valvulæ conniventes were evacuated, but with no trace of muscle-tissue attached to them. From this day to the 27th, portions of mucous membrane, rings or portions of rings (valvulæ conniventes) were passed in the evacuations, the free surfaces being rich in villi. On the 27th, the last of these sloughs came away. The patient was going on well, abdomen soft, evacuations formed and natural in appearance. There were no external swellings, or nodes, or œdema in any part of the body. The renal secretion, however, continued to undergo remarkable changes, though the patient was otherwise convalescent. On November 7th, urine acid, of a dull amber-greenish colour, sp. gr. 1025, one quarter to one half its volume of albumen deposited on boiling; casts with hæmatin, and exudation cells; pure hyalin casts; small separate concretions of crystalline hæmatin. Nov. 21st. Urine acid, depositing urates and a peculiar clot of loose translucent bloody mucus, loaded with albumen, sp. gr. 1031, after separating albumen by boiling, sp. gr. 1025. There had been no further intestinal symptoms since the 27th of October. On the 17th of January of the year following (1880), the same abnormal state of the urine continued: sp. gr. normal, much albumen, and still a deposit of the same peculiar bloody mucus. This was suspected to come from the pelvis of the right (?) kidney. Notwithstanding this condition of the urine, the patient was convalescent, appeared to be in his usual health, and has so continued up to the present time, November, 1883. He has been able to travel and otherwise enjoy himself in his usual manner like a healthy person, but the urine continues to be albuminous, though of normal sp. gr., and free from the loose translucent bloody mucus, which occurred three years ago.

In the sudden onset of pain, the case accords with what is known of sudden distension of vessels, whether from thrombosis or dissecting aneurism. Clinically, this fact of sudden and severe pain in the abdomen, due to sudden distension of vessels, has to be borne in mind in diagnosis, so as to separate the cases from attacks of ordinary colic, the pain of gall-stones and of renal calculus. As the patient whose case is here given recovered, and is now apparently in health, the pathological history is happily defective, but it may in part be supplemented by what occurred in a case recorded by the late Dr. Hilton Fagge. (See *Pathological Transactions*, Vol. 27, p. 124.)

In respect of the sloughed valvulæ conniventes it is to be remarked that the sloughs differed entirely from what would have been passed in intussusception; they were unaccompanied by any trace of muscular coat. What really occurred is probably explained by the *post mortem* in Dr. Fagge's case. He states that at the affected part it seemed "*as though the mucous membrane itself was being detached;*" and this occurred in the case here recorded, as shown by the detached valvulæ conniventes thrown off in broken portions. This case suggests some thoughts as to therapeutics: the uselessness, if not harmfulness, of trusting symptoms. The profuse hemorrhage would have seemed to call for styptics, yet the hemorrhage was useful and curative, and drugs to stop it would have done nothing but harm. The hemorrhage was a necessity of the conditions, and therapeutical. On the question of artificial depletion it supplies some lessons. Bleeding did good in this case at least.

Report by Dr. Goodhart.—The specimen as preserved in the bottle and extended upon talc is ten and a half inches long, but there are many gaps in this length to reduce its actual measurement. It consists of alternating thin and thick bands of membrane, the latter corresponding no doubt to the valvulæ conniventes of the intestine, and the thin part to the mucous membrane between them. Those parts which are thicker, but all more or less, have the velvety appearance characteristic of the villous surface of the intestine. Some are strips of membrane representing half the circumference of the small intestine, others more, and many are complete rings of the entire circumference of the bowel. No parallel bands of muscular fibre can be detected on the closest examination and by transmitted light. There can be no doubt that a localised enteritis and necrosis of the mucous membrane has occurred, and that the mucous membrane has separated in consequence. But it is remarkable that the disease should have been at the same time so severe, and yet so superficial that the muscular coat is entirely spared.—*Guy's Hospital Reports*, 1884, *p.* 15.

18.—ON LARYNGEAL PARALYSIS AND INEQUALITY OF THE PUPILS, AND THEIR VALUE IN THE DIAGNOSIS OF THORACIC ANEURISM.

By Jas. Finlayson, M.D., Physician to Glasgow Western Infirmary.

The occurrence of laryngeal symptoms, and particularly of laryngeal paralysis, as also the appearance of inequality in the pupils, have been known for many years as affording important evidence of the presence of aneurismal and other thoracic tumours. Two patients who were in my wards at the same time afforded illustrations of the value of these signs, and also of the danger of trusting too much to their significance. In the one case we had a well-marked pulsating tumour in the upper part of the chest, extending into the right side of the neck. The history of the case went back for more than a year. The examination after death showed that the aorta was dilated and that a large aneurism arose from the arch in front of the origin of the great vessels. The pneumogastric and recurrent nerves on the right side were found considerably stretched over the tumour, and somewhat adherent to its wall. An attempt was made to include the sympathetic in the dissection of the parts removed; but although it was evident from the position of the tumour that it must have been implicated, it was found that it had been partially destroyed in removing the aneurism and its connections. The laryngeal symptoms had appeared three months before death; and on admission the right vocal cord was found to be paralysed. During his stay in the ward (six or seven weeks) the dyspnœa was often extreme, and he had had several attacks, almost fatal in character, due to spasm of the glottis, terminating with a crowing inspiration. These attacks were aggravated by the growth of the tumour leading, a few days before death, to displacement of the larynx and trachea to the left of the middle line. The only point in this part of the history worthy of note is that the tumour and paralysis were on the right side. It would seem from the statements of authors that this symptom is much commoner when the tumour is on the left side. The state of the pupils was noted particularly on admission; they were quite equal. Their size was measured by means of the scale enclosed in Nettleship's pocket case, the round black spots in which are numbered so as to express the diameter in millimetres. Both pupils when shaded were 7½ mm.; when exposed to bright light, 4½ mm. On being measured again, three weeks before death, when a marked inequality had appeared, the figures were: right pupil when shaded, 4½ mm.; when exposed to light, 4 mm.; left pupil when shaded, 6½ mm.; when exposed to light, 5 mm. This inequality persisted to the end of the case, and was frequently verified as essentially the same in degree. The exact condition at the moment of death was not noted, but at the *post mortem* examination, thirty-six hours later, I found both pupils dilated and quite equal. This dilated and equal condition of the pupils after death, where myosis dependent upon aneurism was present during life, was noticed in the earliest cases recorded of this symptom. This condition of the pupils after death in cases of paralysis from aneurism is just what might be anticipated; for such tumours do not usually destroy the nerves implicated, and so when relief to the aneurismal pressure occurs at the time of death the paralytic condition might pass away at the end; and, further, after death the sphincter of the pupil, like other muscles, becomes no doubt relaxed; and so the condition of the pupil should not be different from what is observed in other cases immediately after death occurs.

In the second case, where the signs of laryngeal paralysis and inequality of the pupils helped to mislead us, there were very obvious signs and symptoms of cardiac disease, great dyspnœa, enlargement of the heart, and a double murmur, audible down the sternum. But there was also evidence of dilated aorta, as shown by an area of undue dulness on percussion extending from the upper boundary of the heart towards the right sterno-clavicular articulation, and also by an undue pulsation in the jugular fossa. Moreover, we had at times a very distinct sense of impulse immediately under the left clavicle. There was also substernal pain, and this extended down the left arm, but there was no swelling. The pulses were throughout quite equal, and the tracings had a well-marked aortic regurgitant character. Frequently, also, we had, from the time of admission, a slight inequality of the pupils; this was not persistent, but when present the left pupil was always the larger of the two. These facts led me to suspect, almost from the first, the presence of an aneurism occupying chiefly the descending part of the arch of the aorta, acting on the sympathetic by causing irritation and so leading to dilatation of the left pupil. The patient, a man of forty-two years, had an old history of rheumatism, but not of syphilis. The total duration of his illness from first to last was fully two years; he was in the wards on three separate occasions, and the observation of the case extended over a period of thirteen months, during the whole of which time the suspicion of aneurism was entertained. The symptoms varied in degree, but remained much the same in kind. Repeatedly pain and friction in the left side indicated the presence of a pleurisy: towards the end of the case a little dropsy, with slight albuminuria, supervened; and the termination was marked by hæmoptysis lasting a few days. The physical signs always pointed to an enlarged aorta, but there was no pulsation over this area, and the pulsation felt under the left clavicle on the first admission ceased to be perceptible; the pulsation in the jugular notch became much less, and the murmurs shifted their position of maximum intensity, so that the diastolic murmur was heard best to the left of the cardiac dulness instead of over the sternum, as before. The pupils continued all through the three residences to show at times a slight inequality, the left being the larger. With these changes in the physical signs, without anything more than a temporary amelioration, the idea of aneurism was still entertained, and it was supposed that it might have grown downward or backward, so as to remove it from, rather than approximate it to, the surface within reach. The lungs remained tolerably free from signs of any serious change; there had been the repeated pleurisy on the left side, there were frequently some bronchial râles, and towards the end the left lung seemed more implicated. No marked dulness and no great enfeeblement of the respiration were detected. About two months before death the patient thought he had contracted a cold, and there was more cough. This was noticed to have a laryngeal quality, and after the first violence of the cough subsided a laryngoscopic examination showed the left vocal cord to be paralysed. The larynx had been examined soon after his first admission, and found normal. This new symptom, still pointing to the left side, seemed to remove all the hesitation naturally felt up to this point in the diagnosis of aneurism; this was now regarded as well established. The laryngeal symptoms persisted to the end, but examination of the parts by the mirror was only practised twice or thrice, owing to his weak condition.

The *post mortem* examination was made by Dr. Newman. The aneurism so confidently looked for on the left side did not exist; there was, indeed, a dilated aorta, and even the beginning of a small pouching towards the right side just above the valves; this might, no doubt, have developed into a regular aneurism if the patient had lived, but it had evidently nothing to do with the laryngeal paralysis on the left side. The aortic valves were quite incompetent, much diseased, and very hard and calcareous; this no doubt accounted for the murmurs; the heart was enormously enlarged. The cause of the left-sided laryngeal paralysis seemed to be due to the state of the left lung, which was found adherent and of a brownish colour; it had the appearance of being compressed and shrunken. The recurrent laryngeal nerve was found to pass through a mass of enlarged glands, just at the arch of the aorta. These existed at the root of the left lung and in the posterior mediastinum. They were of a brownish colour, like the left lung itself, but were not hard. The larynx was somewhat congested.

The explanation of the laryngeal paralysis seemed to depend on the dragging downwards of the left recurrent nerve, due to the greatly enlarged heart, and favoured by the shrunken left lung; and this downward displacement might account for the lessened pulsation in the jugular fossa and under the left clavicle, as the case went on. The implication of the recurrent nerve in the glands cannot be wholly set aside, although their softness would no doubt lessen the chance of their causing irritation, or at least of producing paralysis. The inequality of the pupils was not of the degree or of the kind to warrant much stress being laid upon it, and may fairly be set down as an accidental occurrence, although when it concurred with laryngeal paralysis it was somewhat misleading.—*Lancet, Jan.* 3, 1885, *p.* 3.

19.—ON GOUTY NEUROSES OF THE HEART.

By J. Milner Fothergill, M.D.Edin.

Neuroses of the heart, unlike disease of the organ, attract the attention to the heart directly and immediately. It is the heart itself which is disturbed, while in disease it is more commonly some result of the impaired heart which forces itself upon the consciousness of the patient. The very fact that the patient complains of the heart puts one on guard at once as to the nature of the malady.

Gouty palpitation is very common, especially when the heart wall is dilated, which means that it is common with ladies at or after the menopause. Gouty angina is also common enough. Why is this? Because when the blood is laden with nitrogenized waste, disturbance of the vaso-motor system of nerves is very liable to follow. Spasm of the arterioles dams the blood in the great arteries, and thus increased resistance is offered to the ventricular contraction on the cardiac systole. Sometimes breast-pang is set up, or in other words *angina vaso-motoria.* Very much more common is what Prof. W. T. Gairdner has termed *angina sine dolore,* or imperfect angina, not sufficiently pronounced to give rise to the characteristic agony, but presenting the other features of angina.

There may be palpitation of the heart, or there may be what Gairdner calls "diminished tone and energy." And this latter is the more alarming condition of the two. In either case there is apt to be high tension in the arteries, even when the heart seems faltering; and, as a consequence of this high blood-pressure, a large quantity of urine is voided when the attack passes off. This increased bulk of urine has not, to my mind, been sufficiently appreciated, yet of high diagnostic value in clearing up the vaso-motor element of the case when present. It is a matter which rarely escapes the patient's notice, however. Its absence or its presence is a great matter in guiding the diagnosis; and still more in giving direction to the line of treatment to be pursued. Where angina is vaso-motorial, the blood needs cleansing; where truly neuralgic, the treatment of neuralgia, viz., nervine tonics, are indicated.

At other times the disturbance of the heart is direct, and not the consequence of vaso-motor perturbation. It would seem as if there was some irritation set up in the inhibitory fibres in the vagus, and the heart's action is held back. Of course this effect is more pronounced where the heart wall is weak, either ill-nourished or fatally degenerated. In the latter case the attack is "syncopal" in character—just like syncope produced by other action on the inhibitory fibres of the vagus. Two patients are at present under care,—the one a gouty lady of rank, where the affection is so far linked with gout that she is distinctly gouty, and that she has improved on a line of treatment directed at the gout; the other a compositor, in whom there is no gout apparently, but who is liable to syncopal attacks, with rapid action of the heart, relieved by lying flat on his back, when the heart's action becomes normal. In both the result is the same as regards enfeebled action of the heart. Then there are other forms which present the character of intermittent action. The patient is a medical man holding an official position in India. He was seized with an intense feeling of terror once when out shooting, and shortly afterwards distinctly intermittent action of the heart showed itself. His own opinion was that it was gouty rather than malarial in origin, and after a second interview I came to the same conclusion, and an anti-gout treatment has been followed by satisfactory results confirming this view.

This syncopal aspect of cardiac neuroses has been pronounced of late, so much so that I venture to state my belief that a new phase of disease is coming under our notice, or, at least, this phase is becoming more prevalent. Instead of being rare, it is now frequently met with. It is a state linked at times with overwork, and two of my patients thus afflicted are types of stalwart men, six feet high, and weighing about sixteen stones. In both there is a suspicion of gout to come. But so far their attacks are due to nervous exhaustion from long-continued overwork. Their syncopal attacks are related to a common cause of syncope—stifling, crowded assemblages, while gouty syncope preserves no such relations. This constitutes an essential point of difference betwixt the two forms; otherwise the phenomena are the same in the main, differing chiefly in the mode of causation.

We see, then, that there are several and various affections of the heart linked with a gouty state, or lithiasis, or lithœmia, whichever term is preferred. Palpitation, or angina from vaso-motor disturbance, and high arterial tension, are two of the gouty neuroses of the heart. Interrupted or intermittent action is another form, while impaired energy is a fourth form. The last is a very distressing form, giving the same sense of impending death as is found in the most marked attacks of breast-pang. For the recognition of any of these varieties it is necessary to be familiar with the general aspect of gouty individuals, without which the diagnosis is impossible—by which I mean not the malady, but its causal relations.—*Edinburgh Medical Journal, Nov.* 1884, *p.* 393.

20.—SOME INDICATIONS FOR TREATMENT OBTAINED BY THE USE OF THE SPHYGMOGRAPH.

By J. Mortimer Granville, M.D., M.R.C.P., London.

Irritation and perversion of nutrition may occur in any organ—with such results as sleeplessness, mental excitement, neurasthenia with neurasthenic symptoms, disturbances of vision, of co-ordination, of organic function, producing local congestion, *e.g.*, of the liver, the stomach, the intestines, etc., glycosuria, serum-albuminuria without kidney disease, and an almost infinite variety of morbid states and symptoms of disease, at first mimetic, it may be, but afterwards, by persistence, actual and even organic— and no other cause of disease or disorder exist than failure of the arterial function. I could adduce notes and pulse-tracings to support this view ; but must content myself with a simple statement of the facts and of the inferences I have drawn from them.

The sphygmograph should be used habitually, especial attention being given to these three questions :—

1. Is the up-stroke perpendicular? If it is, then the artery expands or dilates instantly under the pressure of the systolic jet ; and there can be no abnormal rigidity of the vessel, either spasmodic, as often happens, or permanent, as in atheromatous deposit.

2. Does the down-stroke commence at an acute angle with the up-stroke, so that the tracing has a sharp point? If so, the *elasticity* of the artery must be perfect, and there cannot be undue tension from any obstacle to the circulation, or anything wrong with the coat of the artery. If there were anything wrong there would be delay in the contraction, and either a flat head or an obtuse one in the tracing.

3. Is the second rise or wave on the descending stroke of the tracing distinctly marked? If it is, then the muscular coat of the artery contracts after, and in reflex response to, the cardiac-systolic impulse, and the current of blood is controlled by the arterial brake, so that it becomes continuous before it reaches the capillaries. If there be failure in this last respect, liquor sodæ arseniatis or tinctura nucis vomicæ, sodæ valerianas, or, in some cases, ergot, may be indicated. The action of serpentaria as a stimulant to the capillary circulation is so good that the nerve or muscular tonic given for the vaso-motor centre, or for the muscular coat of the arteries, will be aided in its action if it be administered in an ounce or an ounce and a half of the infusion of serpentaria. There is a condition in which the arterial clonus is over-developed, just as any other reflex-excitability may be exaggerated, for example, the knee-jerk in the preliminary stage of tabes spinalis or neurasthenia. When this obtains, the secondary wave will be disproportionately high (dicrotism). For the remedying of this evil I find nothing better than cannabis indica, or, in gouty patients especially, tinctura actææ racemosæ in half-drachm doses twice or thrice daily. —*Medical Chronicle, Nov.* 1884, *p.* 150.

21.—ON SOME DIAGNOSTIC DIFFERENCES BETWEEN BRONCHITIS AND HEART-DISEASE.

By Samuel Wilks, M.D., F.R.S., Physician to Guy's Hospital.

Although the clinical features of bronchitis and heart-disease are sufficiently distinctive to be at once recognised by the experienced medical man, apart from a physical examination of the chest, and although the *post mortem* appearances in the two diseases are also markedly different, yet it is not at once apparent why, when both show congestion of the lungs as the main symptom or immediate cause of death, they should present such distinctive peculiarities. It is important not only to recognise these differences, but to set clearly before ourselves their causes; since, in complicated cases, this will lead to a correct diagnosis, and suggest the appropriate treatment. In a simple case of severe bronchitis, the patient is seen sitting up in bed, and breathing with difficulty; that is, he is using all the muscular effort he can to draw air into the chest, having, indeed, true dyspnœa. At the same time his face is blue, and his extremities livid. The chest is resonant on percussion, the abdomen is not enlarged, and there is no dropsy. In the heart case, notably when the mitral valve is diseased, the patient has not dyspnœa, but apnœa; he can easily fill his chest with air, but, owing to the impeded and irregular circulation, he experiences the distress known as cardiac apnœa or breathlessness. His skin may be pale or yellow at the upper part of the body; the chest may be dull at its lower part, especially on the right side; the abdomen may be full, the liver enlarged; there may be dropsy of the legs, and some albumen in the urine. In the first case, in spite of the lividity of the skin, the congestion, as seen by its effects on the organs, is not nearly so great as in the second, or cardiac case. I take the case of mitral disease, for in aortic, when the blood is thrown back on the heart, the body is pale and impoverished, and it is not until the mitral valve gives way that the congestive conditions become apparent.

Let us see why these differences exist. In the case of bronchitis, the blood is impeded in the pulmonary artery, as is evidenced by the hypertrophy of the right ventricle, and, subsequently, an engorgement takes place in the general venous system. The forces which urge the blood through the lung are in part mechanical and in part chemical. If the air be prevented from entering the trachea from any obstruction, the blood is hindered in its passage through the alveoli, showing that the chemical process of aëration is necessary for the natural flow of the blood. In cases of strangulation, therefore, the right side of the heart is distended, and the whole venous system gorged. If the obstruction be slower or more partial, as in ordinary diseases of the air-passages, the right ventricle, after a time, forces the imperfectly aërated blood through the lungs; and, there being nothing to impede its flow onward in the pulmonary vein or left ventricle, it takes its course through the system. In this way, the pulmonary circulation is freed, and the lividity of the countenance in bronchitis is therefore not so much owing to venous stasis, as to the presence of dark blood circulating in the arteries. This is the only explanation which I can see to account for the slight engorgement of the various organs in bronchial affections. Take, now, the case of mitral disease; the blood is thrown back on the pulmonary veins, and this arrests the flow coming from the right side of the heart through the pulmonary artery; consequently, the whole of the capillary system of the lungs is gorged on both sides of the termination of the bronchi. You will see that there is no longer a question of the possibility of non-aërated blood passing the alveoli of the lung, since there is a positive mechanical hindrance to the passage of any fluid. The congestion of the lung in the two cases is, therefore, of a very different kind; in the bronchitis, it is on one side of the alveoli only; in the heart-case, it is on both sides; in the former, it is in the pulmonary artery; in the latter, in both pulmonary vein and artery commencing in the vein; consequently, the effects are very different on the several organs, and on the body at large.

In the case of bronchitis, although the patient is livid, the congestion does not attain the intensity it does in that of the heart. Here the blood may actually stagnate in the vessels, producing a consolidation of the lung, or may burst through the tissues, so as to constitute a pulmonary apoplexy. This is known during life by hæmoptysis, and the dulness and absence of breath-sounds on percussion and auscultation. In the same way, and for the same reason, the liver becomes altered, as it rarely is in bronchitis, until the congestion produces great enlargement and the condition known as nutmeg-liver; the kidneys, also, from like engorgement, may show albumen in the urine, and the legs become dropsical. After death, the effects of the engorgement are seen in the indurated lung, spleen, enlarged kidney, and nutmeg-liver. These altered states of organs are so well marked, that their appearance alone would denote death from heart-disease. I have frequently been asked why the same conditions do not obtain in bronchitis. I have now endeavoured to give the explanation.

I have brought the subject especially before you in connection with the numerous cases we have in the hospital, on account of the important practical consequences which result from a knowledge of it. Many cases are not so simple as I have described. A patient, for example, may be found sitting up in bed, breathing with difficulty, and with so much rattling in the chest as to preclude the possibility of rightly gauging the state of the heart. If the case be one of primary bronchitis, this is the disease to treat; if the heart be at fault, that may be the organ to administer to, and the secretion in the tubes be allowed to go on as a salutory process of relief. Suppose, in such a case, the liver be found enlarged, this fact would point to the heart as being the principal cause of the symptoms, and you would prescribe accordingly. Or we might, as we often do, meet with a much more complex case, where, besides the symptoms just named, the urine is albuminous, and the patient dropsical. It is much more easy to call such a case one of renal dropsy, as I have often heard done, than to make out accurately the true causation of the different morbid processes. If, however, on careful examination, we find the liver enlarged and the lung gorged, it is much more likely to be one of heart disease, and the albuminous urine a secondary affection. Let the case be treated on this supposition, and we may often see the dropsy disappear, the urine become healthy, the liver decrease, the engorgement of lung pass off, and the patient resume his usual condition—one of chronically impaired heart. Such instances are far from common; for I constantly see cases regarded as primary bronchitis, others as primary liver-disease owing to its enlargement, others as Bright's disease owing to the presence of albumen in the urine, and yet all these conditions are due to congestions arising from heart disease. This has been overlooked, owing to the absence of *bruits*, or their obscuration by pulmonary sounds. It is, therefore, most important to take note of other facts and considerations on which to found a diagnosis.

I could point to numerous cases where digitalis and other appropriate remedies have been given to quiet and strengthen the central organ of the circulation, and all the other ailments have departed. I cannot, therefore, too much impress upon you the value of a diagnosis in these cases; and consider well all the points to which I have drawn your attention, for upon your due appreciation of them the life of your patient may depend. I have necessarily taken typical cases to dwell upon, and have drawn from a large general experience; at the same time, I should say that there are exceptional cases, which would require further explanation, such as the rarer instances of bronchitis associated with enlargement of the liver and dropsy. —*British Medical Journal, Jan.* 10, 1885, *p.* 61.

DISEASES OF THE ORGANS OF RESPIRATION.

22.—ON REMEDIES FOR ASTHMA.

By John C. Thorowgood, M.D., F.R.C.P., Senior Physician to the City of London Hospital for Diseases of the Chest.

When we seek to relieve the urgent dyspnœa of asthma by inhalations, we generally use substances that have been found to act locally as relaxors of spasm. Chloroform cautiously employed is pre-eminently useful in giving prompt relief to the asthmatic fit. It is superior to, and less dangerous than, the nitrite of amyl, but the danger is that the patient becomes too fond of the chloroform, for the way in which I have known chloroform consumed by asthmatic men and women has more than once caused me real alarm and apprehension. If nitrite of amyl be employed, two or three drops should be inhaled from lint, and if the breathing be noted to become slower and deeper, it will be a sign that the inhalation is likely to relieve before long.

Iodide of ethyl, or iodic ether, was introduced as a remedy for asthma in 1870, by Mr. Huette. Our experience of its use in spasmodic asthma at this hospital has been favourable. Six or eight drops of the iodic ether may be inhaled from a piece of lint held on the palm of the hand. In the dyspnœa met with in fibroid phthisis, and in old standing bronchitis, the iodic ether certainly is beneficial.

Burning nitre paper fumes are so well known as a time honoured remedy for the asthmatic fit, that I need say but little on the subject. The more sudden and spasmodic the attack the greater is the chance of relief from the nitrous fumes; and these must be furnished abundantly till the atmosphere becomes unbearable to a person whose lungs are healthy, for then it is that the asthmatic sucks in the medicated air with comfort and relief. Analysis of the nitrous vapour has proved in it the presence of cyanogen, nitrogen, carbonic acid, and ammonia; whether the specific action of the paper when burnt is due to one of these bodies more than another, I cannot say.

The nitre paper has been medicated in various ways, and the addition of some iodide of potassium, as in the ozone paper of Huggins, is an advantage. In cases of bronchitic asthma, where there is some amount of actual bronchitis present in the air tubes, burning nitre paper often aggravates the distress of the patient. It is in these cases where iodic ether answers much better than the nitrous fume, and where preparations of arsenious acid or phosphorus internally are very effectual remedies. Of anti-spasmodic powders and cigarettes for inhalation there is an endless variety known to most of those present. Slade's stramonium cigarettes, and Savory and Moore's datura tatula cigarettes and powder, answer well in cases where there is much spasm and great inspiratory dyspnœa, as if the lung was closed and wanted opening. Belladonna and lobelia powders are also valuable anti-spasmodics. The celebrated Himrod's powder so much used for asthma does not seem to contain stramonium, probably it contains belladonna. The objection to these fuming powders and cigarettes is the dryness of throat and headache which so commonly follow their employment.

Of internal remedies I am bound to speak well of caffeine, usually given in the form of what is known as citrate of caffeine, though chemists say there is no definite combination between the citric acid and the caffeine. Dr. Fowler, of Wakefield, first drew my attention to this citrate of caffeine in 1878, on account of its marvellously curative action in his own case after the failure of an immense number of remedies. The citrate is best given in doses of one to five grains dissolved in warm coffee, and it very seldom fails to give relief to the asthmatic paroxysm. We want more investigation as to the mode of action of caffeine. M. Leblond says it regulates the heart, augments its force, promotes diuresis, and is safer and more certain in action than digitalis. In poisonous dose it is said to paralyse the medulla. While I find much said in English and French works on the value of caffeine in cardiac dropsy, I do not find anywhere mention made of its great power in relieving asthma. I have heard of as much as sixty grains of citrate of caffeine, taken by mistake, producing muscular tremours, vomiting, and rather alarming symptoms, which were relieved by digitalis. The only case in which I have actually seen serious symptoms follow on the use of caffeine was in the case of a young medical man, who had severe attacks of dyspnœa, resembling asthma. To him I gave one grain of citrate of caffeine; the effect was at once to relieve his breathing, and he was rejoiced at the speedy action of the medicine; but soon there came on a most deadly faintness, from which he was with difficulty restored.

In 1869, among out-patients at this hospital, I accomplished some striking and durable cures of bronchitic asthma by means of arsenic in the form of two or three minims of Fowler's solution. Arsenical preparations give vigour and support to the respiration, and enable people to ascend mountains without confessing the toil by a single sigh; hence one judges that in many forms of asthma arsenical medicines may prove advantageous.

I pass over many remedies for asthma, well known to most, to mention a new one that we have recently been employing—the Euphorbia Pilulifera from Australia. A decoction of the dried plant is made in the proportion of ½ oz. to Oj. of water, and when cool 100 mm. of spirit of chloroform are added. Of this decoction the patient takes a wineglassful three times in the day. When it does not agree, you may expect depression and faintness to show themselves. In bronchitic asthma, with emphysematous lungs, the euphorbia seems of some service. I have notes of four cases in which we have tried it.

In the case of a patient lately under my care, with barrel-shaped, almost circular, chest, and frequent asthmatic seizures, we were able, in consultation with Dr. Cayley, to try the effect of the inspiration of compressed air from Waldenberg's spirometer. The benefit was slight, and the trial of expiration into rarefied air of no benefit whatever. Subsequently I learned that the inspiration of oxygen gas had proved useful; but what did more good than anything else was going through a course of severe manipulation at the hands of a celebrated Swedish practitioner. The abdominal muscles were well rubbed and shampooed, and thus their action as muscles of expiration was roused and stimulated. The diaphragm also was powerfully brought into play, with the result of curing the asthmatic seizures, and bringing improved appetite and increased vigour to the circulation, so that the patient felt warm and cheerful.

Of the treatment of hay asthma and summer catarrh I have not much to say. The pollen of grasses and of flowers appears to be the cause of this complaint, and various respirators have been invented to protect the nostrils against the invasion of the pollen. A snuff, made by rubbing well together twenty or thirty grains of iodide of sulphur and 200 grains of powdered liquorice root, has seemed to me decidedly of service in some cases. The powder must be made as fine and impalpable as possible, and then a little of it may be snuffed into the nostrils. Gargling the throat and bathing the nostrils and eyes with a very weak solution of potassium permanganate in water is often very comforting. It is well to commence with five drops of the BP solution of the permanganate in a tumblerful of water, and the strength can be increased by degrees.

Of internal remedies I believe belladonna to be the best when the defluxion from the mucous surfaces is very profuse and distressing. From three to six mm. of the succus belladonnæ should be taken in water every four hours, and such experience as I have had of this remedy has been certainly encouraging.—*Medical Press and Circular, Oct.* 22, 1884, *p.* 348.

23.—ON HAY FEVER AND ITS SUCCESSFUL TREATMENT.

By CHARLES E. SAJOUS, M.D., Lecturer on Rhinology, Jefferson Medical College, Philadelphia.

In the spring of 1881, while investigating, at the Jefferson College Hospital, the merits of glacial acetic acid in the treatment of intra-nasal hypertrophies, I came across two patients who stated, in the course of their general history, that they were subject to hay fever. Both had middle turbinate hypertrophies, complicated in one case with a posterior growth, causing complete stenosis of the left naris. Glacial acetic acid was used to destroy the anterior growths, while the posterior was extirpated with Jarvis's snare. Bearing the hay fever history in mind, I applied the acid over a much greater surface than was necessary for the destruction of the hypertrophies, hoping by this means to diminish the sensitiveness of the mucous membrane, primarily affected in the course of the hay fever, and, if not prevent, at least diminish, the intensity of the accesses. When the time came for the hay fever to manifest itself I watched the cases closely. The symptoms did not recur.

In studying the *modus operandi* of the treatment in bringing about such a result, we must adopt the generally accepted theory that hay fever is due to an idiosyncrasy on the part of certain individuals to become affected by certain emanations. The experiments of Blackley show that the pollen of the majority of plants is the agent that produces the impression on a system sensitive to its action, and that, this pollen being disseminated throughout the atmosphere at certain fixed seasons, the symptoms present themselves only at fixed seasons.

That this is the true theory seems to me beyond a doubt, for without it we cannot explain the regular recurrence, and why this recurrence should take place just at one time and not at another. Still there are cases in which dust, for instance, will cause an access, the symptoms being those of a severe coryza. But, if we bear in mind that the nasal mucous membrane of persons affected with the idiosyncrasy of hay fever is in a state of chronic hyperæsthesia, we can easily understand why an irritant will cause in those persons much more violent symptoms than in others in whom the idiosyncrasy does not exist. Every nose is more or less irritated by dust, and the degree of irritation is in proportion to the degree of sensitiveness. Others are influenced by the emanations of certain drugs; in these the idiosyncrasy is not limited to pollen, but includes those substances that will cause an access.

Some authors have of late advanced the idea that malformation of the nasal cavity, either congenital or through hypertrophic changes, might be the cause of the manifestation, either by reflex action or by interference with nasal respiration. That such malformations have great influence as to the intensity of the manifestation is, I think, very certain, but it seems evident to my mind that they do not act as a cause. If such malformation were necessary, how could we explain the occurrence of an access in those cases in which no such malformation exists?

I am of the opinion that a permanent hyperæsthesia of the nasal mucous membrane exists in persons in whom an idiosyncrasy to become affected by the pollen of flowers or certain irritating substances is present, and that, as was the case with the two patients treated three years ago, the destructive agent employed had induced an organic transformation on the surface of that membrane which destroyed what morbid irritability attended the nervous filaments distributed over it. In other words, they had so altered those parts primarily affected in the course of an attack that they were no longer sensitive to the foreign elements acting as an exciting cause.

As an illustrative case, I will cite that of a young lady whose accesses had appeared regularly for several years. The applications not only prevented the symptoms, but made her nasal membrane absolutely invulnerable to the effects of pollen and other irritants. As a test, she exposed herself as much as possible to the emanations of the plants which she knew to be the most liable to occasion a manifestation of her idiosyncrasy, and went even so far as to place bouquets in her bedroom, and to approach a field of clover, her most dangerous enemy.

Had the idiosyncrasy itself yielded to the treatment, or had it ceased to exist in the patient? Neither can be the case, for one of the symptoms, palpebral pruritus, occurred, showing that the idiosyncrasy still existed in the patient, but that the organic alteration in the nasal membrane had annulled its liability to infection, thus preventing all symptoms secondary to its abnormal irritability, but not that manifested in the palpebral conjunctiva, which was irritable *per se*, and had not, of course, been cauterized.

The applications were made principally over the surfaces of the lower and middle turbinated bones and the portion of the septum corresponding with those surfaces.

If there is a deviation of the septum, and this interferes with the proper application of the cautery, I as much as possible correct the deformity. Hypertrophies are destroyed with the snare or cautery, according to their location.

In my early cases I used glacial acetic acid, but I had to abandon its use because, in order to obtain satisfactory results, it had to be applied repeatedly over an extensive surface, giving rise to much pain. The galvanic cautery serves me better, requiring but few applications, and being painless if properly used. I apply the cautery-knife with its flat side on the surface of the membrane, repeating that procedure in as many sittings until the whole surface extending over (and as much as possible under) the middle and inferior turbinated bones is well singed.

It would seem that such a radical alteration of the nasal membrane would occasion either a loss of, or at least impair, the sense of smell. This is not the case if the applications are properly made. The "olfactory membrane," which in man is yellow, covers the upper part of the septum, the superior turbinated bone, and the upper part of the middle turbinated; it is consequently but slightly involved in the treatment. On the contrary, olfaction is often improved by it, the reduction of the tumefaction facilitating the passage of air, and consequently that of the odoriferous particles. I have never had the least bad result, the treatment being successful and permanent in every case when thoroughly applied.

As a *résumé*, I would submit the following:—(1) That hay fever is an idiosyncrasy existing in certain individuals, to become influenced by certain emanations or irritating substances. (2) That the idiosyncrasy is accompanied by a chronic hyperæsthesia of that part of the nasal mucous membrane covering the inferior and middle turbinated bones, the middle meatus, the floor of the nose, and that part of the septum below the limit of the olfactory membrane. (3) That organic alteration of those parts annuls that hyperæsthesia, preventing at the same time what symptoms the patient may be liable to in the course of an access. (4) That any destructive agent will induce that organic alteration, but that the galvanic cautery is by far the best, being painless, effective, and devoid of all danger when used in practised hands. (5) That, in order to obtain a satisfactory result, a sufficient number of applications must be made, covering the entire extent of the over-sensitive surface, without which the result will be doubtful.—*New York Medical Journal, Dec.* 6, 1884, *p.* 629.

24.—ON THE NATURE OF CROUPOUS PNEUMONIA.

By Sir ANDREW CLARK, Bart., M.D., F.R.C.P., Physician to the London Hospital.

Among all the questions raised concerning the nature of pneumonia, there is still one, and a very important one, which has been almost wholly overlooked. Every one appears to have asked if pneumonia is not a fever, but scarcely any one has asked if pneumonia is really an inflammation. In the admirable work of Dr. Sturges, who regards pneumonia as a fever begetting inflammation, it is said that in pneumonia the phenomena of inflammation are conspicuously exhibited; that in it both the clinical and anatomical requirements are satisfied; and that there are present all the classical results of the inflammatory process—pyrexia, exudation, migration of leucocytes; cell proliferation and excess of tissue change. Pneumonia, he says, is not only an inflammation, but it is the pattern and model of all inflammations. Now, I propose to say a few words upon this question, which has long occupied my thoughts, and which I dealt with at some length in a lecture delivered at the College of Physicians in 1866.

If we proceed to examine critically a bit of hepatised lung, three chief points demand attention: the solid exudation, its relation to the alveolus, and the condition of the alveolar walls.

When recent, the pneumonic exudation consists essentially of leucocytes, red blood discs, hyaline globules, granule cells, and desquamated epithelium, all interpenetrated and held together by a delicate net-work of the finest threads of fibrine. For our present purpose the epithelial cells may be dismissed from consideration. Now, collectively these elements resemble a capillary blood clot, and not an ordinary fibrinous exudation. Everywhere you can see signs of regressive involution, and nowhere signs of true advancing development. However "healthy" the exudation, and however early you may examine it, the number of red discs present in it often equals and sometimes much exceeds the number of the leucocytes, whilst many of the leucocytes may be proved to be nothing more than red discs undergoing histolytic changes. Furthermore, the fibrinous network differing in many respects from that of an ordinary inflammation resembles closely that which is formed in small blood clots.

When we examine the relation of the exudation to the alveolar wall, we discover no evidence of any organic connection between them; and from each pneumonic alveolus a practised hand, furnished with a needle, can turn out the little lump of exudation without apparent injury to the alveolar walls.

Nor does a critical study of the alveolar wall in a hepatised lung furnish us with any conclusive evidence of the inflammatory nature of a pneumonia. With two exceptions no manifest structural change can be found therein. Instead of being swollen and very red, as one would expect them to be after being the seat of an inflammatory exudation, the alveolar walls are pale, thin, blanched as if from loss of blood, and devoid of any sign of active textural change. Furthermore, many of the alveolar blood vessels are occluded, a fact which distinguishes the pneumonic from every other acute parenchymatous inflammation. In nephritis, for example, Johnson has shown us not only that the blood vessels of the acutely inflamed kidney are not occluded, but that they are enlarged. The resemblance of a pneumonic exudation to croupous exudation of mucous membranes, and of the pleura, and even peritoneum, has been admirably set forth by Hamilton; but in my opinion the conditions are far from being identical, and in croupous inflammations of the mucous membranes and the pleuræ structural changes may be found which do not exist in the pneumonic lung. Nevertheless, Hamilton himself says, what I too have said before, that croupous inflammation is not to be reckoned as a true inflammation. Here then in pneumonia is a sometimes enormous consolidation, and yet, as I believe, no conclusive signs of a prolonged inflammatory process: there are signs of slight exudation and of great extravasation of all the elements of the blood; but no signs of active cell proliferation in the exudation, no signs of interstitial structural change in the alveolar walls, and no signs of an organised bond between them.

How is all this to be explained? Is it sufficient to say that the alveolar tissues are of such a sort and supplied with blood of such a kind that they cannot undergo any other manifestation of the inflammatory process? But this cannot be the explanation. For when the alveolar tissues are cut by an instrument, or ploughed up by a bullet, or irritated by bits of stone or steel, or pressed upon by indurated tubercles, or invaded by inflammatory processes from the pleuræ, air tubes, or interlobular tissues, they behave like any ordinary part, and produce an exudation which soon becomes rich in migrated leucocytes, proliferating cells, and developmental tissue change.

Once again, then, what is the explanation of the pneumonic consolidation? At present, for my own part, I can say only that the facts admit of the most complete explanation on the assumption that the consolidation is the result of an active congestion (or aborted inflammation) of tissues in which the blood vessels, almost unsupported and naked, give way to sudden pressure sufficiently prolonged, and permit, with a slight exudation, the extravasation of all the elements of the blood before the inflammatory process, if begun, can be carried to its classical completion in cell proliferations and textural development.

If you still say that the pneumonic consolidation is an inflammatory exudation, I will still reply that the rapidity with which hepatization occurs, the rarity with which it remains, and the rate at which it disappears, are incompatible with the history of the products of any other recognised inflammation.—*Medical Times and Gazette, Dec.* 20, 1884, *p*. 844.

25.—ON THE BACILLUS OF TUBERCLE.

By W. Watson Cheyne, M.B., F.R.C.S., Assistant Surgeon to King's College Hospital, London.

[In the course of the discussion on Dr. Kidd's paper "On the Distribution of Tubercle Bacilli in the Lesions of Phthisis," at the Royal Medical and Chirurgical Society, on January 13th, Mr. Cheyne said:]

I do not know that, as regards the distribution of tubercle-bacilli in tubercular lesions, I have much to add to what I have already published, or to what Dr. Kidd has brought forward; but I have specimens to show a point as to the exact relation of the bacillus to the tubercular lesion, which, I think, is of considerable importance. The epithelioid cells of tubercle are now well known, and are always present in the centre of young tubercles. They are readily recognised in specimens stained more especially with methylene-blue, by their large, often oval, neuclei, which present a granular appearance, and are more faintly stained with the blue than the nuclei of the inflammatory cells which surround them. Now, I have always found that the bacilli are more intimately connected with these cells than with any other part of the tubercle, lying among them, and very often in them, and generally nowhere else. Further, I have been able to trace development of these cells into giant-cells in a number of instances. This is, perhaps, best seen in the lung, where these epithelioid cells are, as far as I can judge, developed in most instances directly from the epithelium of the alveoli, as shown in a specimen under the microscope. Certainly this is the case in phthisis. And there, also, the development of giant-cells from these epithelioid cells is often distinctly traceable, and is further evidenced by the fact that the giant-cells often contain a considerable quantity of carbon. Now, this fact of the relation of the bacilli to these cells is, I think, of great importance in searching for bacilli in the lesions of phthisis. Before looking for bacilli in a section of phthisical tissue, I always search with a low power for a collection of epithelioid cells, or of caseating cells, and then look at that place with a high power. This is of especial importance where fibroid changes are marked, for I have never yet found bacilli among this fibrous tissue, nor would I now expect to find them, on the view which I take of the pathology of phthisis. I believe that one reason why we have difference of opinion as to the presence of bacilli in the so-called fibroid phthisis is that search has been made among the fibrous tissue, and not in the real seat of the disease.

One word about the caseation of tubercles. I must confess that, since I have begun to think of the matter, I have become very sceptical about the view that the centre of a tubercle caseates on account of deficient supply of blood; for, among other reasons, degenerative processes are often evident even in the very early stage of a tubercle. Now, the elements which first undergo degeneration are these epithelioid cells to which I have just referred. These, again, are the especial seat of the tubercle-bacilli. May not the bacilli have something to do with the degeneration? How do the bacilli act in producing a tubercle? It cannot be merely a mechanical action; I consider it most probably a chemical one. I have here photographs of preparations to which I made reference in my recent paper in the British Medical Journal on micrococci. Here you see a dark central mass—a mass of micrococci—a clear ring around, and then, beyond, an inflammatory ring. The course of events is clear; the micrococci, growing in mass, have produced a poison which has killed the tissue around, but further away has been more dilute, and has there set up inflammation. I need not enter into the details given in that paper, nor need I refer to several other known instances where poisonous substances are produced by micro-organisms. Now, I conceive the state of matters in phthisis to be the following; and, of course, the view as to caseation applies to tubercles anywhere. Bacilli are inhaled into the air-cells of a lung which is in a fit state, whether by predisposition or otherwise, for their growth. They at once attack the epithelial cells, and, in the first instance, cause their hypertrophy and multiplication. The bacilli growing in these cells produce poisonous chemical substances, and the cell, which, in the first instance, was stimulated to increased growth by a small quantity of the poison, soon succumbs to the increasing amount, and undergoes caseation. Some cells, or groups of cells, are, however, stronger than the others, and go on growing, so as to form giant-cells. These, generally, also ultimately succumb, though in some instances they may get the upper hand, and the bacilli may disappear. While this is going on, inflammation occurs around, and the process creeps from air-cell to air-cell. I believe, also, that this view of the production of a poisonous substance by the bacilli, may explain the fever and wasting of phthisis.—*British Medical Journal, Jan.* 24, 1885, *p.* 169.

26.—TREATMENT OF THE NIGHT-SWEATS OF PHTHISIS.

By C. M. Cauldwell, M.D., Physician to St. Joseph's Hospital, and Instructor at the New York Polyclinic.

[This paper is accompanied by cases illustrative of typical forms of night-sweating, which entirely support the author's views upon the superiority of Picrotoxin.]

In the hope of obtaining a remedy which would permanently control the exhausting night-sweats of phthisis, I have made a series of experiments with several recognised remedies. These experiments have extended through a period of two years, with the results given below. The ideal sought for was a drug which would not only accomplish the desired end, but which would do so *without* producing unpleasant symptoms, or in any way depressing the general condition of the patient.

Appropriate cases for experimental purposes were selected from five hundred patients suffering from chronic thoracic disease, in my charge at St. Joseph's Hospital, the New York Polylinic, and the Northwestern Dispensary. Care was taken to keep the patients upon the same general treatment during the trial of the various anti-sweating remedies. This consisted of cod-liver oil, hypothosphites of lime and sodium, cinchonidine, and iron when not contra-indicated. Atropine, ergotin, salicin, digitalis, aconite, oxide of zinc, paracoto bark, and picrotoxin, were among the more important drugs selected for trial. Each drug was tested in from fifteen to twenty-five cases.

Atropine, when given in sufficient quantity to check the perspirations, frequently produced annoying throat dryness, insomnia, anorexia, or diarrhœa. Moreover, in the majority of cases where it agreed, the sweating would reappear as soon as the drug was discontinued. The amount prescribed in twenty-four hours varied from one-sixtieth to one-twentieth of a grain.

Ergotin, which was strongly recommended by Professor Da Costa in a very interesting lecture, published in the Medical News for August, 1881, failed completely in my hands. It made considerable impression on the sweating, but, in almost every instance, produced either nausea, colicky abdominal pain, or some other form of gastro-intestinal disturbance. It was administered in gelatin-coated pills, from three to eight grains, in divided doses, being given in twenty-four hours.

Digitalis, even in large doses, although of great value in other respects, gave neither prompt nor encouraging results so far as the perspirations were concerned. The solid extract was the preparation used. From three to six grains were taken in twenty-four hours.

Aconite, recommended by homœopathic writers, greatly modified the sweats. It did this without producing unpleasant symptoms, but, as a rule, it gradually lost its power, and the troublesome symptom returned. One-eighth of a drop of the tincture was given every hour or two, from ten o'clock in the morning till ten in the evening.

Paracoto bark, so highly praised by several English physicians, acted with remarkable promptness in a number of cases. In others it gave little or no relief. It had a tendency to constipate. When diarrhœa and sweating were associated, it was most satisfactory. The preparation employed was a fluid extract prepared by Parke, Davis & Co. From twenty to forty drops were given three times daily.

Salicin proved eminently unreliable, and apparently increased the debility of many patients when continued for more than a week. From one to two drachms were given in twenty-four hours.

Oxide of zinc, though increased to half-drachm doses, manifested but feeble and uncertain controlling power.

Picrotoxin, recommended by Dr. Ringer and Dr. Murrell, more nearly approached the ideal in view than any of the other drugs. It was prescribed for twenty consumptives suffering from profuse night-sweats. In seventeen of the cases the perspirations were entirely checked, or so far diminished as to produce no further debility or annoyance. Even when given in much larger doses than are ordinarily prescribed, it caused no disturbance of the nervous system or of the gastro-intestinal tract—in fact, produced no evil effect whatever. In this respect it compared very favourably with atropine, ergotin, etc. A single full dose of the drug at bed-time was generally sufficient to control the sweating for twenty-four hours. Where one dose failed, a second was taken shortly after midnight. The initial dose, mentioned by Ringer and the English writers generally, is the one-hundred-and-fiftieth of a grain. This was found much too small, and was accordingly increased to one-fortieth of a grain.—*New York Medical Journal, Sept.* 27, 1884, *p.* 341.

27.—ON OZÆNA, AND SOME LOCAL CAUSES OF FŒTID BREATH.

By Peter M'Bride, M.D., F.R.S.E., Surgeon to the Ear and Throat Department, Royal Infirmary, Edinburgh.

Fœtor of the breath is a symptom which may occur under such a variety of circumstances that a full consideration of the subject would carry one far beyond the limits of a paper.

The expired air may acquire a disagreeable odour from pulmonary or laryngeal disease, from mineral poisons, from ulcerations of the mouth, or from the presence of decayed teeth. All these and other conditions to which the symptom in question may be due are doubtless well known to all present.

There are, however, three frequent causes of fœtid breath which are perhaps less fully understood, and which may therefore prove of interest to members of this Society; namely, (1) Follicular Tonsillitis (Chronic). (2) Ozæna. (3) Catarrh of the Tongue.

Chronic Follicular Tonsillitis.—In this affection the crypts of the tonsil are the parts which are most affected. The mucous membrane which lines them pours out a secretion which tends to become inspissated and afterwards to decompose. As a result, the appearance on examination is that of a white patch situated on the surface of the gland. If the adjacent part of the latter be pressed upon, a white pellet is extruded, composed of decomposing organic matter, and having consequently a fœtid odour. When the pathology of this condition is once understood, the indications for treatment become plain. When the crypt has been emptied of its contents an unhealthy or catarrhal state of its lining membrane remains, and probably the best application is the introduction of a thin probe which has been previously covered with nitrate of silver. Attention to the general health and to the adjacent mucous membrane may also in some cases expedite the cure. Let us now turn to another and more important affection, viz.

Ozæna.—The term ozæna is used in two distinct senses. To some it signifies a definite disease, characterized by certain well-marked pathological and clinical features, of which, however, ulceration is not one. By others any fœtid discharge from the nostrils is spoken of as ozæna; or, in other words, the name is applied, not to a definite morbid condition, but to a symptom which may occur in the course of various diseases. Thus, syphilitic and, according to some, scrofulous ulcerations of the nose may in themselves produce a flow of fœtid pus, or they may be the immediate causes of caries and necrosis of the nasal bones. Then, again, an impacted and perhaps long forgotten foreign body, or a nasal calculus, may be the origin of the symptom in question. Primary malignant disease of the nasal cavity and glanders, both rare affections, are also associated with ozæna when used in this less exact sense. Strumous ulceration of the nasal mucous membrane is rare except in childhood, and its very existence seems to be called in question by some. Syphilis, on the other hand, if present, can usually be detected by means of a careful examination; yet every practitioner has met with cases of fœtid nasal discharge in which a specific taint could with certainty be excluded, and in which the condition was due to true ozæna or atrophic nasal catarrh, an affection which is much more common than most of the conditions alluded to, and which is rarely or never accompanied by ulceration. The object of my remarks so far has been to show how necessary it is to make a careful objective examination of the nasal cavity in every case by means of a speculum and reflected light, or, if necessary, by means of posterior rhinoscopy; and, having arrived at this conclusion, I shall enter into a more detailed account of true *ozæna* or *atrophic nasal catarrh.*

As the clinical features of this disease are well marked and admit of no dispute, I shall begin with a short description of the most prominent of these. The affection usually begins in early life, most commonly about the age of puberty, and the first symptom to attract attention is usually a fœtid smell, observed, not by the patient, but by those who come in contact with him. An inspection of the nasal cavities by means of a bivalve speculum and reflected light is usually sufficient to establish a diagnosis. The most prominent characteristic noticed by the observer is extreme roominess, and a closer examination enables him to detect that this is due to diminished bulk of the turbinated bones -more particularly the inferior. Frequently the view is obstructed by quantities of grey or greenish crusts, which can, however, be washed away by means of a spray, while again in other cases there is little evidence of excessive secretion. It is true that one or two cases have been reported in which no such evidence of atrophy of the mucous membrane could be detected; but, as Mackenzie remarks, "Limited atrophy might easily have existed in some situation not accessible to view." As to the cause of this atrophy, the weight of evidence seems to show that it is usually secondary to hypertrophy, the result of chronic inflammatory thickening. During the latter process, I take it, the mucous membrane is infiltrated with quantities of round cells, which, however, tend to lengthen into spindles; gradually this change results in the formation of a quantity of fibrous bundles, which by their pressure cause atrophy of adjacent tissues, including the spongy bones.

As to the cause of the marked fœtor, which is the most distressing and prominent feature of the disease, opinions differ, and many theories have been advanced. Thus, Michel, by an ingenious line of argument based principally on a process of exclusion, advances the hypothesis that the objectionable odour is due to the presence of decomposing secretion in the sphenoidal and ethmoidal cells. While, in a very small minority of cases, this condition may exist, the great bulk of pathological evidence is against this view, which is, however, also held by Bosworth. Krause, as a result of two *post mortem* investigations, states that in addition to a fibroid and consequent atrophic process, which tends to destroy the gland structures of the nasal mucous membrane, there is an enormous infiltration of round and spindle cells which show marked evidence of fatty degeneration; and to the resulting formation of fatty acids he ascribes the fœtor. In the discussion which followed, however, E. Fränkel, of Hamburg, stated that in three cases observed by him the fatty condition was absent. Again, other observers believe that atrophy of the glands of the mucous membrane is the immediate cause of the symptom in question. Probably the most satisfactory view in the present state of our knowledge is that expressed by B. Fränkel, of Berlin, who maintains that it is necessary to assume the presence of a specific ferment in cases of ozæna, to meet the fact that atrophic catarrh sometimes, though rarely, exists without fœtor. The last theory to which it is necessary to allude is that advanced by Zaufal, that the tendency to decomposition is due to diminished growth of the turbinated bones, and the widening of the nasal passages consequent thereon, which diminishes the force of the respiratory current of air and tends thus to favour the retention of secretions. That there is a certain element of probability in this view will be evident to all; but that the widening of the nasal fossæ is due to retarded development alone is extremely unlikely.

A consideration of all these views, then, leaves us only in a position to say that ozæna is associated with atrophy of the nasal mucous membrane. If the secretion be examined in its fluid state, it is found to consist of pus cells and enormous quantities of bacteria.

The predisposing causes of ozæna are still uncertain; for while some authors have found this atrophy of the nasal mucous membrane to originate more frequently in those of a strumous or specific constitution, Mackenzie says, "In adults dry catarrh shows no special disposition to affect the strumous. I have met with only three cases in which there was any evidence of hereditary syphilis, and I only know of three in which ozæna, without ulceration, has followed acquired syphilis."

For the treatment of ozæna an enormous number of drugs and applications have been suggested. Attention to the general health should of course, in many cases, accompany local medication, but to the latter we must look as our sheet anchor.

There can be no doubt that the most effectual method of treatment consists, in the first place at least, in thorough cleansing of the whole nasal cavity; and although douching and syringing are much used, I do not believe that these can be at all compared with the anterior nasal spray, as used at the London Throat Hospital, either in point of efficacy or safety. While agreeing with those authors who believe that ozæna is often incurable, yet I am also of opinion that in most cases the fœtor, which is after all the only symptom calling for interference, can be kept in check for an indefinite time by the methodical use of appropriate sprays. According to my own experience, the most satisfactory results are derived from the use of an alkaline and antiseptic spray, immediately followed by one containing as much tincture of iodine as the patient can bear, which usually does not exceed five minims to the ounce. The alkaline spray, of course, washes out all parts of the nasal cavities thoroughly, and leaves a perfectly clean surface for the remedial effects of the iodine, which probably acts in its double capacity of antiseptic and stimulant. Some authorities prefer to apply their remedies as powders, and the most important of these latter are iodoform, boracic acid, and eucalyptus (diluted with starch); while others resort to a gelatine bougie as a vehicle for introducing medicinal agents into the nares.

Gottstein, finding that it was only the dried secretion which gave forth the disagreeable characteristic odour, has suggested plugging the nares with cotton wool for a time varying from two to twelve hours, and this method may be worthy of imitation in cases where the spray treatment has failed. The inhalation and ejection through the nose of creasote vapour may also be followed by benefit, and by relief from the feeling of dryness which is sometimes complained of. Whether in obstinate cases the treatment may be aided by the internal use of sulpho-carbolates I do not know, although, arguing from analogy, one might expect a beneficial effect from the employment of this drug.

The next, and I believe by far the most common, cause of fœtid breath is catarrh of the tongue.

Catarrh of the Tongue.—Furring of the tongue is so common and so frequently associated with robust health, that its pathological nature has been almost lost sight of, except, indeed, when it occurs as a symptom of general disease. Yet the frequent catarrhal origin of this condition cannot, I think, be denied, although at first sight the objective appearances are somewhat unlike those usually presented by inflamed mucous membranes. In the œsophagus, however, it would seem that chronic superficial inflammation tends to produce a desquamative process analogous to that so often seen in the skin; and when we consider the analogy of structure between the mucous membrane of the gullet and that covering the tongue, and, moreover, the fact of the intimate relation which subsists between these two organs, it is difficult to avoid the conclusion that a similar analogy will subsist between their pathological conditions. Another strong argument in favour of the inflammatory origin of furred tongue, if further proof be needed, is the fact that, during local acute affections of the tonsils, pharynx, etc., where the whole mucous membrane participates to some extent, the tongue is always thickly coated. All this notwithstanding, we find little allusion to tongue catarrh in any of our standard works. Among specialists, Michel alone, so far as I know, refers in a footnote to the differential diagnosis between this condition and ozæna, stating that he has observed it as a cause of fœtid breath; while Niemeyer writes, in his article on "Oral Catarrh," as follows:—"The foul taste, or more correctly the foul smell, is not solely a subjective symptom; generally other persons perceive a fœtor from the mouth of the patient, especially in the morning before breakfast." Niemeyer, be it observed, speaks of tongue catarrh as a symptom of oral catarrh; but the fact to which I desire to direct attention is the great frequency with which it occurs alone, or at least without any evident catarrh of adjacent parts. Both among the laity and the profession fœtid breath associated with foul tongue is commonly ascribed to dyspepsia. The common connection between the two conditions cannot be denied, but it seems to be too often forgotten that the fœtor is not due directly to the presence of noxious material in the stomach, but to decomposing inflammatory products on the back of the tongue. The fur in such cases is known to consist of epithelium and mucus, and often contains bacteria. That fœtid breath is in many instances due to this condition may be proved by a process of exclusion arrived at by a careful local examination of the mouth and nose, and a knowledge of the fact, that, except during deglutition and eructation, the œsophagus is firmly closed.

I may be met here with the argument that many cases of this kind can be cured by internal medication; but it must be remembered that this in the present instance is often also local medication, and is also generally accompanied by avoidance of irritating ingesta, a prohibition which acts in favour of both organs (stomach and tongue). This brings us, however, to another point of interest. It is manifest that furred tongue, when due to stomach catarrh, is not always produced by direct extension of inflammation from one part to the other, but in many cases probably owes its origin to a nervous connexion, and is therefore of the nature of a tropho-neurosis.

We do not yet know sufficient concerning vaso-motor connexions to enable us to trace the nervous chain of communication between tongue and stomach, but the anastomosis between the glossopharyngeal and pneumogastric naturally suggests itself to the inquirer. If, however, it be generally admitted that the tongue sympathises so readily with the stomach, then it almost follows that the converse must be equally true. The conclusions, then, which one is inclined to draw from these facts are :—

(1.) That fœtid breath, when due to dyspepsia, is caused by the accompanying catarrh of the tongue.

(2.) That local treatment directed to the tongue is the best method of meeting that symptom, and may also influence favourably any coincident gastric disturbance.

Catarrh of the tongue may, however, exist by itself. In such cases over-indulgences in tobacco, alcohol, or highly-spiced foods, may be the direct exciting cause.—*Edinburgh Medical Journal, Jan.* 1885, *p.* 596.

28.—ON DRY CATARRH OF THE NOSE.

By W. B. Dalby, F.R.C.S., Aural Surgeon, St. George's Hospital.

Although in most cases of catarrh of the middle ear, where they have arisen from a diseased condition of the mucous membrane of the pharynx and nares, there is an increased flow of mucus in the nasal cavities or pharynx, there is also a condition that is termed a dry catarrh of the lining membrane of the nose. In this, notwithstanding a certain stuffiness at the back of the nose and a difficulty of clearing their passages from mucus, the anterior nares are irritable and dry, and covered with little scabs, or dry yellow flakes. Now, this morbid state is almost peculiar to children and young people. If it has existed for some years it is often impossible to point to a cause, but I have so often seen it at periods of a few months after measles or scarlet fever, and many times after hooping-cough, that I believe it more generally starts from one of these child's complaints than from any other immediate cause. Indeed, you know that catarrh of the middle ear often dates from hooping-cough, and some years ago I so often saw this dry catarrh a few months after hooping-cough in deaf children that I became accustomed to ask whether the child had recently had hooping-cough, or, if not this, measles or scarlet fever. What seem at first apparently trifling ailments so frequently succeed these diseases that they are not noticed for a long time afterwards, and their origin is unsuspected. But this is not a trifling ailment, for it is the beginning of ozæna, and when ozæna is once fairly established it is probably never cured. It may be kept in check by daily attention extending over many years, but it is not eradicated. It becomes, therefore, most necessary to recognise this dry catarrh as soon as it shows itself, for in its early stages it can be put an end to. The first consideration is to cleanse thoroughly the nares with warm alkaline washes, used with the nasal syringe. The patient's head must be bent forward, and the fluid which is passed up one nostril must pour out of the other. Until this is done, the little patients cannot clear their nostrils by using a handkerchief. The nurse must be carefully instructed how to syringe the nose thoroughly. After this, when the nostrils are completely cleansed with the handkerchief, a very weak ointment, composed of yellow oxide of mercury and vaseline, should be applied inside the nostrils with a small camel-hair pencil. Under this local treatment I have found many cases of dry catarrh, in the early stage before it had passed into ozæna, get well.—*Lancet, Jan.* 10, 1885, *p.* 53.

29.—ON A NEW METHOD FOR THE REMOVAL OF LARYNGEAL GROWTHS.

By William Chapman Jarvis, M.D., Lecturer on Laryngology in the University of New York City.

[After passing in review the various established methods of using chromic acid, and the uses of the actual cautery and other instruments, the writer proceeds:]

My plan is to *apply chromic acid in small quantities at short intervals.* This is best accomplished by means of a probe upon the point of which a tiny crystal of the salt has been fused. The probe should have a correct laryngeal curve. Its point, previously heated, is applied to a particle of the chromium crystals about as large as a millet-seed, or, speaking more precisely, a quantity varying in the neighbourhood of one-sixth of a grain. The crystals fuse and adhere to the heated metal, giving off chromium fumes. This fuming, which might result in the reduction or evaporation of the melted crystal, should be quickly interrupted by placing the probe near the palm of the hand and vigorously blowing upon it. The firmly adherent red bead is distinctly visible upon the dark surface of the chilled probe, and can only be displaced by vigorous friction.

As soon as the patient has properly withdrawn the tongue, the laryngoscopic mirror is placed in position and steadied against the side of the mouth. The probe, grasped in the operator's right hand, is pressed against the opposite side of the mouth, and, with this point as a fulcrum, is steadily advanced over the tongue until its point appears pictured in the laryngoscopic mirror. The angle of the laryngoscope is gradually altered as the applicator advances, in order to keep the probe's point constantly toward the centre of the mirror. When the red dot on the probe's point is observed to be almost in contact with the growth, it is suddenly projected upon it by gently depressing the handle of the applicator. The chromium crystal vanishes from the end of the probe, reappearing as a minute white speck upon the point of application. This eschar soon assumes a yellow hue, growing darker as it gradually exfoliates. The sphacelated fragments are expectorated, leaving minute depressions upon the surface of the growth. In this way the papillomatous tissue is removed piecemeal. The irregular projections resulting from this chiseling process are levelled by successive applications of the acid, and all the parts can be carved with the caustic, according to the operator's fancy. The curve of the probe has much to do with its proper manipulation, since its successful introduction into the larynx depends more upon precision than dexterity. As the caustic is guided to its goal by directing the end of the probe, the wire should be curved to keep this objective point constantly in view. A circumferential curve accomplishes this most efficiently, the point of impingement being the intersection of the radius with the arc of a circle at the base of the quadrant. Thus the instrument is readily directed by a simple curvilinear motion. A curvilinear bend, however, is not adapted to every laryngo-oral axis; in these exceptional cases the ordinary elbow-angle must be adopted.

The use of the uncovered probe is sometimes attended with more or less difficulty. This difficulty is principally due to the unintentional deposit of the application upon the base of the tongue and the neighbouring structures, or to involuntary closure of the glottis. Both of these obstacles have been overcome by a little instrument which accomplishes the first indication by protecting the chromium crystal until it reaches the point of application, and the second by surprising the larynx.

The instrument consists of a cannula containing a movable metallic rod, the latter being continued in the form of a spiral spring at the curved portion of the tube. A probe-pointed piece of wire is riveted to the extremity of this spiral, to preclude the possibility of the accidental displacement and lodgment of the caustic-carrier in the larynx. The spring also serves as a buffer to deaden the force of the probe's impact against the growth. The handle of the applicator is excavated to receive a spiral spring, acting upon the movable rod. A detent drops between the teeth, and sets the spring. The nut serves to regulate the tension of the spring. When not in use, the stylet projects beyond the hood, thus permitting fusion of the chromium crystals upon it as with the ordinary probe.

When ready for use, the probe's point is drawn within the tube by traction upon the milled nut, its return being prevented by the catch. The applicator can now be introduced without risking the loss of the application upon accidental points of contact. It is not necessary to carry the end of the instrument directly upon the growth, since the probe-point is propelled some distance beyond the end of the tube, thus bridging over the interval of alarm.

A special feature of the instrument is the trigger device. This contributes the utmost steadiness, and, therefore, precision in manipulation, by securing instantaneous action with the smallest expenditure of force. The extremity of the probe is made of flexible metal, to permit its fixation at any angle. Mr. W. F. Ford, of Caswell, Hazard, & Co., is the original manufacturer.

The general utility of this method for the treatment of laryngeal growths is apparent when we reflect that more than fifty per cent. of their number are papillomatous in character. I have entered somewhat minutely into the details of my operation, more to prevent failure due to their neglect than from any personal inclination.—*New York Medical Journal, Aug.* 23, 1884, *p.* 207.

DISEASES OF THE ORGANS OF DIGESTION.

30.—ON STRICTURE OF THE ILEO-CÆCAL VALVE.

By SAMUEL FENWICK, M.D., Physician to the London Hospital.

Stricture of the ileo-cœcal valve occurs most commonly in the female between the ages of twenty and forty, the prominent symptom is the frequent attacks of severe colicky pain attended with constipation and vomiting, and active movements of the intestines are visible through the abdominal parietes. If you find such conditions, you know there is an obstruction in some part of the intestinal canal, and you have to determine its seat and the condition that has produced it. The first point is to ascertain whether the stricture is or is not in the course of the large intestine, for in the majority of cases of narrowing of the intestine the sigmoid flexure or the rectum is the part affected. If such is the case, you often have a history of the passage of blood or mucus, or the fæces may have been of very small size, and in many cases you can prove the existence of the stricture by the finger or by a bougie passed up the rectum. If, on the other hand, the ascending colon or the cæcum is the seat of stricture, a tumour can be generally distinguished in the right side of the abdomen, for in this situation it is almost always the result of cancer. When a stricture is situated at the cæcum, there are usually well-marked dulness and distension on the right side of the hypogastrium, whilst the opposite side is the seat of these signs in case the upper part of the rectum is involved. It is often said that when the left side of the large intestine is constricted the colon projects in the umbilical or epigastric region, whilst the umbilical and lumbar regions are comparatively flat if the stricture is in the small intestine. This, like all other general rules, although often of value, is not always to be relied upon; for we not infrequently see the colon so lengthened and displaced that it seems to fill the whole of the abdomen; whilst, on the other hand, a distended small intestine may be pushed upwards so as to occupy the epigastrium, and may consequently simulate the appearance of a distended colon. You might expect that when the colon was constricted the visible movements of the intestines would be directed to the left side, and that they would tend to the right if the stricture was in the small intestines; but it is in most cases impossible to determine in what direction the intestine is really moving, for a number of coils seem to be everywhere twisting about at the same time. What will perhaps be your best guide is that in stricture of the small intestine the motions are more energetic, the coils seem to be shorter and change their position more constantly, and the gurgling sound produced is moister, and gives you more the impression of the motion of fluid and gas intermixed than when the colon is the seat of the obstruction.

You may confound chronic cases of ileo-cæcal intussusception with the disease we are considering, for in both frequent attacks of colic are a prominent symptom. But the former is most common in children and in males, whilst constriction of the ileo-cæcal valve presents itself generally in females of middle age; in intussusception you have occasional discharges of blood or mucus, and there is almost always a tumour to be felt, which is apt to change its form, consistence, and position from day to day.

Constriction of the small intestine, whether produced by adhesion to some of the neighbouring organs or by contraction of the mesentery, may give rise both to the symptoms and physical signs of stricture at the ileo-cæcal valve; indeed, this was diagnosed in Case 2 as the probable cause of the patient's sufferings, as pelvic tumour was discovered, and there was a history of extra-uterine fœtation. You will only be able to arrive at a correct conclusion by making a careful examination of the pelvic organs in order to ascertain if there is any disease of the bladder, uterus, or ovaries, likely to have given rise to local peritonitis. If, for example, carcinoma of any of these organs were discovered, constriction of the small intestines from adhesion would be a more probable diagnosis than simple stricture of the valve. You might imagine from the manner in which the intestines are often found to be matted together in tubercular peritonitis that intestinal obstruction would often occur from this cause. This may sometimes take place, but as ulceration of the mucous membrane is also usually present, diarrhœa, and not constipation, is generally the prominent symptom.

Cancer of the peritoneum frequently gives rise to constriction and obstruction of the intestine. When the disease is, as is usually the case, associated with ascites and with abdominal tumours, the diagnosis is tolerably easy. But there is another and more rare case, in which the cancer is scattered over the peritoneum in a miliary form, and in which attacks of colic are for some time the only prominent symptom; and here it would be a matter of great difficulty to arrive at a correct diagnosis in an early stage of the disease. You should in such instances always examine by the rectum, for often small tumours are to be felt in Douglas's pouch, when they are nowhere else to be discovered; and if in addition to the presence of a tumour you find a gradual loss of flesh and strength, the occurrence of ascites, or an implication of some other organ, you have facts that will enable you to arrive at a correct conclusion.

The first two cases occurring in our wards were treated by morphia, in order to relieve the pain from which the patients suffered, whilst the action of the bowels was assisted by enemata, but only temporary relief was afforded. There was no obstruction in either case, and the patients both died suddenly from collapse. In the third case the patient was admitted on account of obstruction of the bowels, and although some slight evacuations were obtained by enemata, he was not relieved until the small intestine was opened by operation and its contents evacuated. He died, not of obstruction, but of pneumonia. It will be remarked that in none of these cases was the communication between the ileum and the cæcum completely closed; in the first there were two or three small openings, in the second a quill could be passed, and in the third the valve admitted the point of the finger. There was, therefore, nothing that was necessarily fatal, and we can only attribute the unfortunate terminations to the great and long-continued distension of the intestines and the effects of this upon the nervous and vascular systems. Now, in any future case of this kind, what treatment should be adopted in case the diagnosis was sufficiently clear to enable us to fix upon the ileo-cæcal valve as the point of stricture? We have no medicines that can prevent the gradual contraction that occurs after chronic inflammation of the ileo-cæcal valve any more than we can stop a similar change in the mitral or aortic valves of the heart; and although, when we have reason to suspect syphilis as having originated the disease, we might employ medicines appropriate for that disease, it is unlikely that we could restore the part to its original condition by means of mercury or iodine. Clearly, then, the only plan to afford relief is what was done in the third case by Mr. Warren Tay—viz., to make an artificial opening into the small intestine near to the cæcum. The proper method of performing such an operation falls within the province of the surgeon, but I would advise you, in case you should have to undertake it, to read the account of a successful case of opening of the small intestine that was under the care of my colleague, Mr. Macarthy, which was published in the Medico-Chirurgical Transactions for 1872. It is true the patient eventually died, but the operation was successful in affording relief, and the wound had healed sometime before death took place. There seems indeed no reason why an artificial opening should not be made into the small intestine with a fair prospect of success, if the same precautions be taken as in other operations on the abdominal cavity. But the chief point is, not to delay it until the portion of the canal above the stricture has become paralysed, or the heart has been so much depressed, through the sympathetic, that collapse is imminent. I have mainly brought these cases before you to impress upon your minds that all strictures of the intestines are not cancerous, and therefore not necessarily fatal; that the hypertrophy of their muscular walls affords a most valuable sign that constriction has been for some time in existence, and not likely, therefore, to yield to medical treatment; and that the interference of the surgeon may not only afford temporary relief, but restore the patient to a state of comparative health.—*Lancet, Jan. 10, 1885, p.* 50.

31.—PERITONITIS OF LOWER ABDOMEN—PERITYPHLITIS.

By W. T. Gairdner, M.D., LL.D., Professor of Medicine in the University of Glasgow.

The general experience of pathological authorities shows that in a very considerable portion of *fatal* cases of inflammatory lesions in the ilio-cæcal region the *processus vermiformis* is in some way or other the source of the inflammation. In a minority there is inflammation of the cellular tissue lying chiefly behind the cæcum and ascending colon; and in such cases the peritoneum may escape implication, the abscess opening directly into the cæcum. And as in the case of the uterine organs the names *perimetritis* and *parametritis* have been devised to indicate the two modes of spreading of the inflammatory action referred to, so here the words *perityphlitis* and *paratyphlitis* have been employed; the former, however, embracing by far the greater number of cases, and being accordingly much the more familiar term in works on the subject. There is, moreover, a certain number of cases in which, though the inflammatory processes extend to the neighbourhood of the cæcum, they do not originate there; as where a pelvic abcess (parametritis) burrows upwards along the sheath of the psoas and iliacus muscles, or where a spinal or perinephric abscess burrows downwards along the same sheath, and may end in forming a communication with the bowel, or by opening in the groin. In these cases the peritoneum usually remains exempt.

Now, in the cases which recover (and these are the large majority) it is often not possible to make an exact diagnosis of the seat of the primary lesion, and therefore it is vain to attempt to classify them as above; but in many or most of them the local peritonitis, extending from the right iliac fossa upwards and inwards, is the most prominent fact, and the name *perityphlitis* is applied without a too curious inquiry into the unknown origin of the lesion. The evidences of the inflammation are the pain, superficial or deep; tenderness on pressure, increased resistance, swelling, and dulness on percussion in the right iliac fossa; fever, often with repeated shiverings, and usually of a remittent type, which may go on, in protracted cases, into a kind of hectic; the bowels being more often than not constipated, but occasionally with intervals of diarrhœa. Vomiting is by no means a constant feature of such cases, but is sometimes pretty obstinate. Indeed, I have known the vomiting and constipation together such as to raise serious questions as to the existence of a mechanical obstruction or invagination of the bowel; but usually it is not so. In well marked cases, the dense semi-solid feeling of impaction extends quite down to the pelvis; in others, towards the middle line and sometimes even above the umbilicus; and, in the female sex, it may be only after careful examination of the pelvic organs that such cases can be distinguished from peritonitis of pelvic origin. Occasionally, and especially when it is inexpedient to make such examination owing to the patient being unmarried, or to the rapid recovery, it remains a doubtful question to the last. I have seen several such cases in female children who all made good recoveries; and although these cases passed for perityphlitis, I am by no means sure of the pathology of them even now.

The most important clinical fact, however, to keep in view in dealing with such cases, is that a large proportion of them do, in fact, recover more or less completely, and after a longer or shorter period of careful management. This favourable prognosis is not commonly set forth, at all events so as to have impressed my own mind, in the various monographs on typhlitis and perityphlitis; perhaps owing to the fatal cases, and those submitted to *post-mortem* examination, being chiefly accumulated in medical literature, and thus becoming unduly prominent. In one very admirable memoir, however, I find the view now presented fully more strongly asserted than I should have been disposed to put it, even apart from the evidence in the cases above noticed. "I believe," writes the late Dr. Hilton Fagge, "that even when acute peritonitis is set up by ulceration of the cæcal appendix, the disease, if properly treated, is infinitely less dangerous than is supposed. I have never myself seen a case of this kind terminate in death, when its nature was correctly diagnosed, and when no purgatives nor enemata were allowed to be given. Nor of late years have any fatal cases occurred in the hospital (Guy's), except a few cases in which death occurred very shortly after admission. I have, therefore, been accustomed to give a favourable, though a guarded, prognosis in cases of typhlitis, even when symptoms of diffused peritonitis are present. It may, of course, be said that the very fact that one can make an exact diagnosis proves that the disease is not running on to a fatal termination within the first few hours, and that the signs of the general inflammation do not preponderate very greatly over those of the local mischief; and I am ready to admit that there may be cases of sloughing of the appendix which are necessarily fatal. But, as I have shown, the differences in cases of typhlitis appear to be differences of degree, and not at all of kind; and I believe I am justified in saying that when this disease is skilfully treated it scarcely ever terminates otherwise than in the recovery of the patient."

Dr. Fagge further argues that there is no good reason to suppose (as has been supposed) that such cases, when they end in recovery, "differ essentially from cases of perforation of the appendix," which he regards as "really always the starting-point of the inflammation." He alludes to three cases in which it was pathologically determined that perforation was the cause of an attack which had virtually ended in recovery, when either a new attack of perityphlitis, or an intercurrent disease, attacked and carried off the patient. The most important of these cases is the following: —"A patient suffering from chronic pleurisy was attacked with pain in the right iliac fossa and the other symptoms which I have just mentioned; a firm tumour, dull on percussion, could be felt in the right iliac fossa. Under careful management, the abdominal disease subsided, but pneumothorax occurred, and of this he died a few days afterwards. The cæcum was closely adherent, a small collection of purulent matter surrounded the vermiform appendix. This was perforated at its extremity, and outside it lay a small mass of hardened fæces."

I have already conceded that it is often impossible, clinically (in cases which end in recovery), to be sure of the exact seat and nature of the original lesion; and to this extent I am disposed to think that the weighty and striking sentences above quoted, from a great master of clinical and pathological investigation recently removed from us, may require some qualification. But the words of a man like Hilton Fagge must be taken as implying not only strong conviction, but conviction founded on an amount of closely observed fact which is perhaps not fully brought out in the details of the memoir itself. There are many circumstances tending to the belief that peritonitis even from perforation of the small intestine is not so absolutely desperate a case as it has been frequently represented; and we have already seen that peritonitis of considerable severity and diffusion, arising from pelvic causes, admits of resolution, in many instances, with a completeness and rapidity that it is not easy, pathologically, to explain. The vermiform appendix is placed so as to offer the most favourable conditions possible for the isolation and limitation of the results of an ulcerative lesion, or even of a perforation; but it is not necessary to suppose that in most, or all, of these cases actual perforation occurs, if we only accept the idea that an ulcerative or other lesion *tending* to perforation is usually forestalled, as it were, by reparative processes which may often tend to prevent the threatened fatal rupture. In such processes, adhesive peritonitis, I believe, plays a principal part, and it is only a question of degree whether the extension and the character of the peritonitis are such as accurately to fulfil this, its conservative work in the organism, or such as to become more or less of a disease and a danger *per se*. At all events, there seems no escape from the conclusion that in some cases, at least (such as the one above quoted), even perforation of the vermiform appendix may be followed, or accompanied, by what *nearly* amounts to a complete recovery, through adhesion of it to the surrounding parts.

Dr. Fagge further points out that "typhlitis often recurs again and again at intervals of a few weeks. It is also exceedingly apt to relapse during convalescence if the patient is allowed to commit any indiscretion." This statement I can fully confirm, and the importance of it, from a practical point of view, in connection with the preceding observations, need not be more particularly pointed out. The treatment of all such cases should be conducted on the same principles (*mutatis mutandis*) as in peritonitis of pelvic origin. Rest of the parts, absolute if possible, is the main indication of treatment, and this, in the case of the cæcum or vermiform appendix, implies, of course, abstinence from the use of purgatives, and not unfrequently, also, the administration of opium, and the limitation of the diet. Enemata, if employed at all, should be only such as to empty the rectum; but, on the principle that a lower bowel loaded with fæces is more open to strain than one cleared out by warm water in moderate quantity, I am not sure that I am prepared to accept without some qualification Dr. Fagge's conclusion that enemata, as well as purgatives, are to be entirely proscribed as a first condition of safety. It is perhaps necessary, however, to protest against Eichhorst's special recommendation of large cold water enemata three or four times a day in what may chance to be regarded as *typhlitis stercoralis.* I cannot say that I have had such experience as would induce me to pronounce this an entirely distinct form of disease; and if, on the other hand, the constipation, which often attends a case of inflammatory swelling in the iliac fossa, is not to be taken as the cause, but as the result, of the inflammation, usually, if not always, associated with ulceration of the vermiform appendix, a treatment founded on mere emptying the lower bowel, mechanically or otherwise, cannot be expected to be successful. A liquid diet, at first exclusively employed, and afterwards only a very gradual introduction of the most completely digestible solid foods, will be rightly held to be imperative, owing to the same very obvious and paramount necessity of securing rest, as far as possible, to the whole intestinal tract, and especially to the cæcum. In cases where vomiting is obstinate and long-continued, I should not be restrained from clearing the rectum of its contents so far as to allow of nourishment and stimulants being given *per anum;* and morphia might in such case be used in considerable doses hypodermically. The patient should be rigidly kept in bed, and absolutely in the recumbent posture, till the tenderness and swelling are nearly if not quite gone; and, holding in view the risk of relapses, it is hardly possible to insist too much upon great care in this respect. The only local treatment I am disposed to recommend is the use of fomentations (medicated or not); poultices (if not too heavy); sometimes, if there is much distension, or if the fever is very high, the local application of cold for short periods by iced cloths; and, in more chronic cases the painting of iodine tincture, or liniment.—*Medical Times and Gazette, Sept.* 20, 1884, *p.* 393.

32.—ON PERFORATION OF THE APPENDIX VERMIFORMIS.

By Samuel Fenwick, M.D., Physician to the London Hospital.

There are some affections that occur so rarely that only a few instances fall within the observation of any practitioner, and they are consequently apt to be overlooked or confounded with other maladies of more frequent occurrence, whilst the rules for their detection and treatment are necessarily vague or imperfect. It is some disorders of this kind that I would from time to time invite you to study with me, examining the symptoms they have presented during life, and, in such as have proved fatal, the morbid conditions discovered after death.

I would first invite your attention to a disease of rare occurrence, which has only of late years attracted the attention of practitioners, and which often presents considerable difficulty in diagnosis—viz., perforation of the vermiform appendage. Five cases of this kind have been admitted into the hospital during the past twelve months, and I have selected two that occurred in my wards as illustrations of the symptoms and course usually presented by the malady.

Case 1.—A man, seventeen years of age, was admitted under my care on Feb. 14th, 1884, complaining of great pain in the abdomen, accompanied by weakness, to such an extent he was scarcely able to stand. He was very thin, with a face expressive of severe suffering, the eyes were sunken, and the skin remarkably dark around them. He referred the pain chiefly to the epigastric region, although it extended over the entire abdomen, which was tender upon the slightest pressure; he had frequent vomiting, and the bowels had been constipated during the whole period of his illness. The pulse was 108, very compressible; tongue, much furred; respiration, 42; temperature, 99·8°. The abdomen was greatly distended and tympanitic, but the loins and flanks were not distended, and there were no visible movements of the intestines. The hypogastric region was dull on percussion; over the cæcum the note was less dull, and percussion upon this part gave rise to a gurgling sound. On examination by the rectum a mass could be discovered in front, which was smooth, and gave the impression of its consisting of several coils of intestine united together. He stated that he had always enjoyed good health until nine weeks ago, when he thought he had hurt himself by lifting a heavy roll of paper; since that time he had lost flesh, but had been free from pain, or any other symptom. Seven days ago he was suddenly attacked with severe pain of the epigastrium shortly after supper, and the pain had continued ever since, in spite of medical treatment. Perforation of the appendix was diagnosed, and he was ordered frequent and full doses of opium. During the next three days he seemed somewhat easier, the vomiting was less frequent, and the abdomen became less distended. The temperature sank on the second day to the normal point, and on the two subsequent days it was 97° and 97·6°. The physical signs remained unaltered, excepting that there was more fulness over the region of the cæcum, but the pulse became gradually more feeble, and he died on the tenth day of his illness.

Post-mortem examination.—A considerable quantity of pus escaped when the abdomen was laid open, and the intestines were seen to be everywhere adherent to each other, pus being situated between the adjacent coils. The part where the gurgling had been elicited by percussion was occupied by a fold of small intestine, bent upon itself, filled with air and fluid, and lying upon the cæcum, whilst the tumour felt through the rectum proved to consist of some coils of intestine united together, and enclosing collections of pus, and adhering by recent lymph to the back of the bladder and the sides of the pelvis. There was also a considerable quantity of free pus in the pelvis. The appendix was extremely congested, the tip being of a purplish colour and much thickened; its sides at the lower third were covered with pus and lymph, and a concretion was felt impacted in its upper third, whilst between this and the tip was an ulcerated opening. The cæcum itself was congested, and contained only a few small pieces of fæces and bits of gelatinous-looking matter.

Case 2.—In the second case little complaint was made of pain. Although the hypogastrium was tender on pressure and slightly swollen, it was comparatively dull on percussion; and percussion over the right iliac fossa elicited a gurgling sound, as of air and fluid. This case also proved fatal. At the *post-mortem examination* it was found that the small intestines were adherent to each other in the hypogastric region, with pus situated between the adjoining coils, whilst a collection of pus presented itself in the pelvis, walled in by recent lymph and coils of intestine adhering to each other. The vermiform appendage was perforated by an ulcer, which communicated with the abscess, but no concretion could be found. The part where the gurgling had been heard on percussion was occupied by a loop of small intestine, situated over the cæcum, and adherent by recent lymph to the adjoining parts.

Now, it is scarcely necessary for me to point out to any of you who have attentively listened to the narrative of these two cases how remarkably they differ, although in each there was the same lesion of the vermiform appendage and the same local inflammation resulting from it. But in the former case general peritonitis had existed from the first, the symptoms were ushered in by sudden and intense pain, vomiting, and constipation; whilst in the latter the inflammation was confined to the part at which it had commenced, and the pain was never severe. The patient was, in fact, unable to fix the date of the beginning of his illness, and severe diarrhœa was the prominent symptom. But what we shall hereafter find was of great importance, was that in the first case the disease occurred in a person previously healthy and resulted from the irritation set up by a concretion;

whilst in the second it took place in one who was suffering from long-standing phthisis.

When this accident first attracted the attention of pathologists, it was remarked that the appendix often contained a foreign body, and the idea arose that this was the sole cause of the ulceration. Out of 125 cases which could be examined as regards this point, in fifty-five it is stated that either a concretion, a mass of fæces, or some other foreign body, was present; and it is fair to conclude that the numbers would have been larger if a sufficiently careful search had been practised in them all; for as the contents of the appendix often drop into the pus surrounding the ulceration, it is easy to understand that a small concretion may frequently have been overlooked. The nature of the foreign body has varied, for, in forty-seven cases sufficiently detailed to allow of analysis, twenty-eight were concretions, fourteen consisted only of hardened fæces, and, in five others, substances such as seeds or shell were present. But why should a foreign body in this part set up such serious results, when we know that in numerous instances the appendix has been found on post-mortem examination to be occupied by shots, seeds, and even, as in a case lately observed in this hospital, by lumbrici, without any apparent ill results; and when we so constantly meet with concretions in the kidney and the gall-bladder without any manifestations of disease having arisen from their presence? I think in most cases the presence of a concretion by its irritation gives rise to ulceration, and the proximity of the part to the cæcum filled with decomposing materials tends to produce sloughing in what would be otherwise a mere abrasion of the mucous surface.

Most of the cases of ulcerated appendix in phthisical subjects occur at a later period of life than when it is due to the presence of concretions or catarrh, for out of those I have collected only one was below twenty years of age, seven were between twenty and forty, and three were above forty.

I have already mentioned the prevalent idea that the concretions so often found in the appendix are always the result of hardened fæces, or of indigestible materials of the food, and if such were the case we should expect to find that most of the sufferers had been liable to constipation. Now, I have collected forty-three cases in which the previous state of health is recorded, and of these only three had been subject to a constipated state of the bowels. It is therefore evident that this theory derives but little support from facts. I should be more inclined to believe that the concretions are in most instances the result of an excessive secretion of the mucous membrane of the appendix arising from the stimulus afforded by an undue use of solid and indigestible food. This view derives support from the fact that of twenty-five cases in which a concretion was discovered twenty are described as having enjoyed robust health, and three had been delicate; whereas of eight in whom no concretion was discovered, only five had been robust and three delicate. The presence of a concretion produces no pain until catarrh or ulceration is excited, for out of twenty-five cases of concretion only two had previously complained of abdominal pain; whilst of eighteen in whom no concretion was recorded five, or 30 per cent., had suffered in this way. I have before mentioned that injuries to the abdomen are supposed by some authors to give rise to ulceration of the appendix, and this derives some support from the fact that three cases out of eighteen in which no concretion was discovered referred their complaint to blows or strains. In four instances out of forty-three there was a history of a previous attack of typhlitis from which the patient had perfectly recovered; in two of these the patients died from peritonitis only, and in the remaining two both abscess and peritonitis were discovered after death.—*Lancet*, *Dec.* 6, 1884, *p.* 987.

33.—ON THE TREATMENT OF PERFORATION OF THE APPENDIX VERMIFORMIS.

By Samuel Fenwick, M.D., Physician to the London Hospital.

In the earlier cases of perforation of the appendix placed on record venesection seems to have been generally trusted to as the only means of cure, under the impression that the disease was of a purely inflammatory character. It is scarcely necessary to say that such treatment proved of little benefit, inasmuch as the inflammation was the result of the introduction into the serous sac of a decomposing, or at any rate of an irritating, material which no amount of bloodletting could remove. Its only effect was to lower the vital powers of the patient, and thus to diminish his chance of recovery by adhesion of the injured part to some of the neighbouring organs. Other cases were treated by the use of drastic purgatives, on the supposition that the symptoms resulted from intestinal obstruction; but although in most cases the bowels were readily opened, the fatal termination of the disease was not thereby obviated. On the contrary, the use of aperients proved to be so detrimental that they were entirely abandoned in this as in other forms of peritonitis. Of late years opium has been generally employed, but there has been no diminution in the mortality of the disease. I have prescribed it in every case that has come under my notice for some years, either alone or along with belladonna; it has always relieved the pain, lessened or altogether subdued the vomiting, given sleep, and proved an immense comfort to the patient, but in no single case has it appeared to avert the fatal termination.

Another plan of treatment has, however, been successfully adopted—viz., that of laying open the abscess formed around the perforation and allowing the pus to escape. The earliest case on record is one performed by Mr. Hancock, which ended in the recovery of the patient. Twenty years afterwards Dr. Parker, of New York, operated upon a case successfully, and Dr. Gordon Ruck, of New York, has collected thirteen cases of this operation, of which twelve recovered and only one died. I have twice advised this procedure; in the first case it was not performed until the patient was evidently sinking, but pus was found and evacuated; in the second, which was a very chronic one, the abscess was opened and recovery ensued. I have before mentioned that fluctuation can rarely be distinguished in abscesses of this kind, and out of ten recorded by Dr. Ruck it could be felt in only one, proving that there is no necessity to wait until this sign of abscess can be discovered. None of the above cases were operated upon before the seventh day, and, with one exception, the operation was not attempted until between the seventh and the fifteenth day; but we have already seen that forty out of fifty-seven cases died during the first week of illness, so that if the rule should be followed, as has been hitherto laid down, of waiting until the pus is completely localised by adhesions, the operation will be restricted to a very small number of those who are attacked with this formidable malady. Theoretically it would seem to be much better if we could cut down upon the appendix as soon as the diagnosis was tolerably certain, tie it above the seat of the perforation, and remove from its neighbourhood any concretion or decomposing material that might be the cause of irritation. The only objection that I can see to an early operation is that adhesions to the neighbouring organs might be prevented; but when we reflect how very rarely the fortunate termination occurs, and how certainly death follows if it does not take place, we may, I think, dismiss the objection from our consideration. But even when adhesion does result from perforation, the fatal issue is in most cases only postponed, for, as we have before shown, the adhesions are often torn asunder by some undue exertion of the abdominal muscles, and fatal peritonitis ensues.

Two methods of operation have been pursued: in one an incision has been made directly into the suppurating part and the pus at once evacuated; in the other the incision has only been carried down to the fascia, and either the pus has been allowed afterwards to escape spontaneously or an aspirator has been passed into the most depending portion of the swelling and the contents thus evacuated. It is evident, however, that if an operation were performed at an early period the incision must be carried down directly to the injured part; for we cannot suppose that pus would be formed and localised until many days after the perforation had taken place.

The choice of the method of operation must of course be left to the discretion of the surgeon, and will probably require to be varied according to the circumstances of each case. Of one thing we may be quite certain, that no drugs are likely to be of much avail; for your common sense will tell you that when you have an irritating material suddenly introduced into a large serous sac the only chance of giving relief is to remove it, and thus put a stop to the original cause of the mischief. The office of the physician, therefore, will most likely become restricted to diagnosis, and it is only by carefully watching the first symptoms and the physical signs of the disease and by comparing them with those of other disorders that may simulate it, that we shall be able to arrive at such a correct judgment as may justify the employment of surgical measures at an early period of the case.—*Lancet, Dec.* 13, 1884, *p* 1041.

34.—HAZELINE IN HEMORRHAGE FROM THE BOWELS.

By Richard Halpin, House-Physician, Royal Chest Hosp., Lond.

The following case illustrates the value of *Hamamelis virginica* in the treatment of hemorrhage.

A cabinet-maker, aged 44, had been subject for eight years to bleeding from the rectum. In 1877, he suffered from an attack of pleurisy of the right side, and, during convalescence, noticed that he was passing blood in his motions in considerable quantities. The hemorrhage was periodic, coming on in alternate months, lasting four weeks at a time. The blood was passed in the morning immediately after the bowels had been relieved. It was bright red in colour, usually fluid, but sometimes coagulated, and amounted to about two ounces. The patient's general health suffering considerably, he was reduced to a condition of great debility, and was forced to seek advice at St. Bartholomew's Hospital. He was found, on examination, to be free from piles, fistulæ, etc., and was treated with little or no benefit as an out-patient. In November, he was admitted as an in-patient at the Royal Hospital for Thoracic Disease, and was found to have taken almost every drug in the *Pharmacopœia*; but the hemorrhage still continued. Knowing the value of hamamelis in these cases, it occurred to me that the aqueous distillate of the fresh bark known as hazeline might be of use, and I accordingly injected an ounce, diluted with a small quantity of water, into his rectum, giving at the same time half a drachm by mouth every three hours. The bleeding was at once arrested, and, although the patient remained for some weeks under observation, there was no return of his old trouble.

This case, I venture to think, affords conclusive proof that we have, in *Hamamelis virginica,* a drug which may be relied on for the treatment of a very obstinate class of cases. I may mention that equally good results have in my hands attended its use in cases of pulmonary hemorrhage.—*British Medical Journal, Jan.* 31, 1885, *p.* 227.

35.—ON THE DIETETIC TREATMENT OF DYSPEPSIA.

By Austin Flint, M.D., LL.D., New York.

Half-a-century ago, most maladies were supposed to originate in the *primæ viæ*, as the digestive organs were significantly called. It was enjoined upon all who desired to preserve health to watch closely these organs, and to make a constant and careful study of diet with reference to digestion. Dietetics and digestion, next to the weather and politics, furnished the topics for common conversation. The evils of the gratification of the appetite for food furnished themes for writers and preachers outside of the medical profession. Moral as well as physical ills were referred to errors in diet, for which the sufferers were held responsible. There are a few at the present day who entertain those ideas which were so common fifty years since. Within a few months I have received a sermon by a clergyman in which a strictly regulated and spare diet is recommended as indispensable not only for health, but for good morals and religious faith.

The views generally entertained, at the time to which I have referred, largely by physicians and almost universally by non-medical sanitarians, may be summed up in a few maxims as follows. Eat only at stated periods—twice or thrice daily, never between meals, no matter how great may be the desire for food. Never eat late in the evening or shortly before bedtime. In the choice of articles of diet, carefully select only those which reason and personal experience have shown to be best digested; never yield to the weakness of eating any article of food simply because it is acceptable to the palate. In order to avoid the temptation of overeating, let the articles of food be coarse rather than attractive, and eschew all the devices of the cuisine. Always leave the table hungry. Study personal idiosyncrasies, and never indulge in kinds of food which, although wholesome for most persons, are injurious to the few who are peculiarly organized. With reference to this last maxim, bear in mind that "what is one man's meat is another man's poison." In order to secure, as effectually as possible, a proper restriction in the quantity of food, it was recommended by some physicians, and to some extent practised, that every article be carefully weighed at meal-times, and a certain quantity by weight never exceeded. Vegetarianism, or Grahamism, was advocated and practised by many. Total abstinence from drink was considered by a few a good sanitary measure, compelling the body to derive the fluids needed exclusively from fruits, vegetables, and other solid articles of diet. Restriction in the amount of drink, as far as practicable with regard to the power of endurance, was very generally deemed important, so as not to dilute the gastric juice.

Dyspepsia formerly prevailed chiefly among those who adopted, to a greater or less extent, the foregoing maxims. It was comparatively rare among those who did not live in accordance with dietetic rules. The affection is much less prevalent now than heretofore, because these maxims are much less in vogue. The dyspeptics of the present day are chiefly those who undertake to exemplify more or less of these maxims. It seems to me, therefore, a fair inference that dyspepsia may be produced by an attempt to regulate diet by rules which have for their object prevention of the affection which they actually produce. It is to be added that an important causative element involved in the practical adoption of these rules is the attention thereby given to digestion. It is by introspection and constant watchfulness of the functions of the stomach that the mind exerts a direct influence in the causation of this affection.

I can perhaps best submit the general plan of treatment which I have for many years pursued by supposing a hypothetical case.

A patient presents the symptoms which denote difficult or labored digestion, with more or less of the associated symptoms which have been enumerated. We will assume the diagnosis to have been made positive by excluding gastric ulcer, gastritis, carcinoma, and other lesions of the digestive organs. Renal and cerebral diseases have also been excluded.

I am accustomed then to ask the patient, "Do you regulate your diet?" The answer is generally in the affirmative, and it is often given promptly and emphatically. Then I say: "This is a good reason for your having dyspepsia; I never knew a dyspeptic get well who undertook to regulate diet." The patient is usually not a little surprised at these assertions, and may take issue with them. The success of the treatment will depend on the willingness and confidence with which the patient enters upon a reform in dietetic habits. "What system of diet do you advise?" is a question which is naturally asked. The answer is, that I have no rigid system of diet to advise, but that food must be taken in sufficient quantity and sufficiently varied to satisfy the requirements of assimilation and nutrition, and that this is not to be done by adopting any fixed rules regulating the amount and the kinds of food. "How am I to be guided?" is a question which naturally follows. The reply is: "Not by theoretical views of alimentation and digestion, no matter how much they may appear to be in accord with physiological and pathological doctrines, but by the appetite, the palate, and by common sense." The patient, if intelligent (as dyspeptics usually are), may be reminded of the fact that nature has provided appetite and the gustatory sense for the regulation of diet as regards quantity and variety. To oppose these natural regulations is to do violence to nature. If the patient is a clergyman, he may be taxed with a want of sufficient reliance on

Providence. Providence or nature takes care of digestion, leaving only the claims of appetite and the palate for human oversight.

"But," the patient will be likely to say, "am I not to be guided by my own experience, and avoid articles of food which I have found to disagree with my digestion?" The answer is, that personal experience in dietetics is extremely fallacious. An article of diet which may cause inconvenience or indigestion to-day may be followed by a sense of comfort and be well digested to-morrow. A variety of circumstances may render the digestion of any article of food taken at a particular meal labored or imperfect. As a rule, articles which agree with most persons do not disagree with any, except from casual or accidental circumstances, and the expectation, in the mind of the patient, that they will disagree. Without denying that there are dietetic idiosyncrasies, they are vastly fewer than is generally supposed, and, in general, it is fair to consider supposed idiosyncrasies as purely fanciful. Patients not infrequently cherish supposed idiosyncrasies with gratification. The idea is gratifying to egotism, as evidence that Providence has distinguished them from the common herd by certain peculiarities of constitution.

The instructions for treatment, abbreviated, will then be as follows. Do not adopt the rule of eating only at stated periods—twice or thrice daily. Be governed in this respect by appetite; eat whenever there is a desire for food. Eat in the evening, or at bedtime, if food is desired. Insomnia is often attributable to hunger. In the choice of articles of diet, be distrustful of past personal experience, and consider it to be a trustworthy rule that those articles will be most likely to be digested without inconvenience which are most acceptable to the palate. As far as practicable, let the articles of diet be made acceptable by good cooking; as a rule, the better articles of food are cooked, the greater the comfort during digestion. Never leave the table with an unsatisfied appetite. Be in no haste to suppose that you are separated from the rest of mankind by dietetic idiosyncrasies, and be distrustful of the dogma that another man's meat is a poison to you. Do not undertake to estimate the amount of food which you take. In this respect different persons differ very widely, and there is no fixed standard of quantity which is not to be exceeded. Take animal and vegetable articles of diet in relative proportions as indicated by instinct. In the quantity of drink, follow Nature's indication, namely, thirst. Experience shows abundantly that, with a view to comfortable digestion, there need be no restriction in the ingestion of fluids.

The ground which I take is, that the diet which in healthy subjects is conducive to the preservation of health is the diet which is desirable in cases of dyspepsia. Restrictions of diet when digestion is difficult or labored, with a view to adaptation to a supposed diminished capability of the digestive organs, I believe to be never successful, and injurious in proportion as the restrictions involve diminished assimilation and nutrition. It is a fallacy to suppose that the digestive organs in dyspepsia need rest. Exercise of the functions of the different organs of the body tends to the maintenance of their functional capabilities. Some old writer said that the stomach was like a school-boy: unless kept pretty constantly occupied it was sure to get into mischief. There is an important practical truth in this remark. If the stomach behaves perversely, like the mischievous school-boy, the patient should conquer the stomach, and not the stomach the patient. This simile may sometimes be used with advantage in order to make patients not afraid to rely upon their digestive powers.

In some cases which have come under my observation, patients who had been chronic dyspeptics for many years found themselves at once cured by adopting a full and varied diet, following nature's indications, and taking no thought of what they should eat or what they should drink, and occupying the mind with other topics than those relating to their digestion.

Finally, let us learn a practical lesson from our observations of the class who "live to eat"—the *gourmet* and the *gourmand*—they "who fare sumptuously every day." Dyspeptics are not common among this class. An over-stimulated appetite may lead to other affections—such as gout, indigestion, fatty heart, etc.—but rarely to dyspepsia.

Let us learn another practical lesson from our observations of those who "eat to live"—the hard-working labourer or mechanic, who is satisfied with obtaining an ample supply of food, and who has no time to study, by his personal experience, the relations of diet to digestion. Our dyspeptic patients do not belong to this class.

Let us learn another lesson from our observations of the classes to which our dyspeptic patients do belong. They are, for the most part, lawyers, clergymen, doctors, students, teachers, artists, bankers, literary men, and men of leisure. Of those belonging to these classes, they become dyspeptics who study, from the best of motives, how to live, as regards diet, so that "digestion shall wait on appetite, and health on both." And for this end they endeavour to regulate diet by watchfulness, personal experience, theoretical notions, or, perhaps, scientific principles.—*New York Medical Journal, Nov.* 22, 1884, *p.* 567.

36.—LACTO-PHOSPHATE OF LIME AS AN AID TO NUTRITION.

By Dr. J. Pelletan, Paris.

The increasing recognition of the influence attributed by recent researches to microzoa in the genesis and evolution of disease, has caused a revolution in therapeutics. Some have attempted to destroy the morbific germs by administering substances which, to be efficacious, must be given in doses more likely to injure the patient than to cure the disease. Others, considering that animal and vegetable parasites thrive only on exhausted organisms, have sought to prevent the evil, or arrest its progress, by giving the patient greater power to resist the invasion of minute organisms. By acting on this principle, much success has been obtained in the treatment of phthisis and other acute and chronic diseases, by supplying to the patients abundance of pure air, light, and properly selected food.

These encouraging results have rapidly generalised the practice of "over-feeding" ("suralimentation"). This, however, does not always succeed to the extent hoped for; because the assimilative power of the patient is impaired, and resembles that of children and young animals, whose digestive power is incapable of utilising strong food. This inconvenience is overcome by the introduction, with the food, of a substance suitable for securing its digestion, and subsequently its assimilation.

This substance is phosphate of lime; the properties of which have been explained by M. Dusart, and by many preceding and subsequent investigators. M. Dusart has shown, by physiological experiment, that phosphate of lime is capable of imparting to the proteid principles of food the property of becoming solid, and, under the influence of the vital force, of taking the form of cells, fibres, and other tissues. According to M. Dusart, the vitality and body-heat of animals are in proportion to the amount of phosphate of lime contained in their bodies. This substance is so indispensable to the formation of tissues that, when the food does not contain a sufficient quantity of it, the tissues take from the bony skeleton the calcareous salt which they require; just as, when the food is deficient in hydrocarbons, they take from the adipose tissue the materials necessary for the production of heat.

Not only must phosphate of lime be present in sufficient quantity in the food, but it must be easily assimilable, even by weakened patients. To such, the phosphate should be given in a form which will secure its absorption. Accordingly, M. Dusart has prepared, under the name of lacto-phosphate of lime, a substance which first facilitates the digestion of food in the stomach, and afterwards aids its transformation into tissues. In acute maladies of a severe and infectious character, by which the powers of the organism are reduced; in chronic diseases, of parasitic origin or otherwise, which almost inevitably lead to inanition; in rickets and in arrest of growth, lacto-phosphate of lime is a powerful element of repair, and a well indicated complement of a nutritious diet.

Many young mothers are, from various causes, unable to furnish to the fœtus the calcareous substances necessary for its development, and hence produce feeble children whose life is with difficulty preserved. Numerous facts have proved that, by giving lacto-phosphate of lime to the pregnant woman, her condition can be so modified as to cause her to produce large and vigorous children, capable of resisting morbid influences.

Such are the facts which I have observed during more than fifteen years of practice, and that will be observed by all practitioners who, to secure the nutrition of their patients, will prescribe the lacto-phosphate of lime.—*British Medical Journal, Dec.* 20, 1884, *p.* 1272.

DISEASES OF THE URINARY ORGANS.

37.—ON RENAL DISEASE IN EARLY AND IN MIDDLE LIFE.

By JAMES F. GOODHART, M.D., Assist.-Physician to Guy's Hosp.

The fact that seems to me too little appreciated, and that needs to be taught with more emphasis, is this; that a text-book description of acute nephritis—scanty, full-blooded urine with much albumen and dropsy—is exceptional in the wards of a hospital. The majority of cases are a colourable imitation only; they have dropsy, much albumen in the urine, a trace or perhaps more than a trace of blood, and the urine is of low specific gravity and of large quantity. Nevertheless such cases are for the most part styled acute nephritis because the first symptom complained of is the anasarca. But these cases stay in the wards for three or four months, and ultimately leave the hospital in much the same state, except for the subsidence of the dropsy, as when they entered it: that is to say, passing a urine which is of low specific gravity and contains much albumen. Watch these cases afterwards, and their history is of this kind: the dropsy gradually disappears and then from time to time reappears more or less, but they do their work and call themselves well, save for an occasional headache or pain in the back, which a hospital patient thinks nothing of. The urine, however, always remains much the same as regards the albumen, and after a variable interval, perhaps five or six or nine or ten years, they come in to die, perhaps with some sudden recurrence of general anasarca and serous inflammation, or with cardiac and pulmonary troubles, but often only pallid and uræmic, without more than the least trace of dropsy; and the kidney is found at the inspection to be mottled, yellow, and scarred or granular on the surface.

I make no doubt that this description will be allowed to be essentially correct, and if so then it would seem that one of the following propositions is true: (1) acute nephritis of middle life (for these cases mostly occur between 25 and 50) is an intractable disease, and in the majority of cases becomes chronic; or (2) what is called acute nephritis is misnamed, and this disease is insidious from the commencement. The latter proposition I believe to be the more correct.

As regards the first, it must certainly be admitted that acute disease of the kidney is often intractable. It is no uncommon thing for acute nephritis to drag on for three or four months, and the albumen is often even longer in taking a permanent departure: still on the whole the improvement in these cases is progressive and gives an indication of the line the disease is taking. And, on the other hand, if we take all the cases of scarlatinal nephritis, which is acute enough and nephritic enough if we judge by all the signs which serve as evidence of nephritis in other cases, we find that the majority get well without any such very prolonged illness. It will be said, perhaps, that I have no right to take an inflammation due to a cause which has a known course and tendency to subside like the scarlatina poison, and argue from it for other forms of nephritis; but this does not appear to me to be an objection in this case, for the reason just given, that the inflammation in the kidney, specific or not, could hardly be more pronounced. Moreover, though this is certainly not an argument of much solid worth, it would be a strange thing, with the evident tendency of all our tissues towards repair, if the kidney should in the large majority of cases show such a tendency to irreparable destruction as it would appear to do, if the class of cases I am now concerned with began as an acute disease in hitherto healthy organs. From this side of the question, therefore, I am disposed to doubt the correctness of our present nomenclature; and if I take its other aspect, and examine the structural changes of the kidney itself and the conditions under which they are found, the conclusion at which I arrive is even more positive. Acute nephritis is a disease which is frequently associated with lardaceous disease; it is frequently associated with chronic obstruction to the outflow of urine from the bladder; it cuts off many a gouty man towards the close of his prime, and when we may assume that there has been some pre-existing disease of the kidney. I might even say it is allowed by many, through the large white kidney, to end in a granular form of kidney, although this I venture to doubt.

Now what do these associations mean? Take lardaceous disease: although it is a change which is widely distributed, yet in any one organ advanced changes are often only found in this part or that; in those intervening there may be little disease or none. Further, lardaceous disease in the kidney is particularly prone to set up inflammatory changes about it: the epithelium in the tubes undergoes fatty degeneration and the proliferative changes which are known by the name of catarrh; and the stroma becomes crowded with nuclei. Thus we have, disseminated through the kidney, centres of chronic inflammation dependent upon the lardaceous change in the vessels. And here let me make a slight digression to say how rare a thing according to my experience is pure lardaceous disease of the kidney. It is far more frequently associated with chronic parenchymatous nephritis, more or less; and consequently I am always in doubt as to the precise value of low specific gravity of the urine and polyuria as indications of the existence of the lardaceous kidney, for the two symptoms are equally those of the more chronic forms of parenchymatous nephritis.

Again, what does obstruction to the outflow of urine entail? I doubt if histology has proved itself a greater benefactor in any other organ in the body than in the kidney, and in any other disease than what now goes by the name of ascending nephritis, for I cannot conceive of a subject which has a more practical or wider bearing upon renal disease than it. What harm does obstruction to the outflow of urine do? Histology shows that ultimately it works much the same mischief as does lardaceous disease. It leads first to backward pressure in the renal tubules, the backward pressure deranges the circulation, the secreting cells suffer, and the perivascular tissue becomes as we call it inflamed. From this cause the vessels become thick or swollen, the connective tissue also, the nuclei of these tissues are present in excess, and the blood-corpuscles wander into unwonted paths. Here we have the simplest and mildest form of the disease, but the obstruction is often associated with inflammation of the pelvis of the kidney, and then there opens out a prospect of wilder changes in the connective tissue of the organ, and an examination of such a case reveals foci of disease here and there all through the organ which it is impossible to distinguish from those which follow the lardaceous change, or those which accompany some cases of granular kidney; but the essence of the whole disease is still its partial distribution, so that large tracts of the kidney appear perfectly sound. Nor are the naked-eye appearances less instructive. In the early stages of the milder forms of disease there is but little to find fault with: the capsule may be a little adherent, the pelvis dilated, and the texture tough. But in the more pronounced forms large tracts of the secreting structure become involved and the surface is scarred with reddish-grey, depressed, sanded scars, which are separated by bosses of tawny yellow, the former being the areas of chronic inflammation, the latter the more healthy parts with their tubes choked by fatty epithelium. These are perhaps the extremes of active inflammation, excepting the formation of abscesses, with which we are not now concerned; but we shall not have sounded the depths of the pathological process nor the possibilities of which it is capable, unless we remember that all chronic inflammatory conditions when once they have obtained a certain hold upon, or position in, the tissue are essentially infective. By this I do not mean to imply any potency derived from extraneous sources, but merely that inflammatory products of some standing have a life of their own; that they worry the tissues in which they are, and so induce further inflammation; and that the activity of cell life in these areas is inimical to the physiological standard of action and in favour of some perverted form. Thus in organs such as these, when once foci of chronic inflammation are established there is a risk of a gradual spread of fibrosis throughout them, and it is possible to conceive of an inflammation or a process of cell growth so slow but so progressive as ultimately to bring about a granular kidney. In this way the pathologist can see the way from simple obstruction in the urinary passages to all forms of nephritis, and I am quite familiar with the occurrence of such cases as at any rate make the existence of a granular kidney from such a cause at least possible.

But the fact strikes me how sharply renal disease, or rather Bright's disease, in the wards, falls into two groups—the one of acute disease tending towards recovery, a group consisting almost entirely of young people: the other, also called acute or subacute, as I have already said, but apparently very little bettered by treatment, and a disease of adult life. Of fifty-six cases of acute and subacute nephritis, no less than forty left the hospital passing more or less albumen, and most of them after a long stay; ten only left well, without albumen, and seven of the ten were under sixteen years old.

A fact so striking calls for some explanation. What is it? Can there be this great difference between the reparative power of the kidney in youth and childhood and in adult age? Is it not rather an essential difference in the nature of the disease, that the one is really acute, and the other a slow insidious form which passes for acute solely because in its exacerbations it is liable to become associated with anasarca? Assuredly there is much reason for this if—and I think the fact cannot be controverted—the disease is found to follow lardaceous disease, obstruction to the outflow of urine, and the chronic processes associated with gout.—*Guy's Hospital Reports*, 1884, *p.* 136.

38.—ON RENAL COMA.

By Robert Saundby, M.D. Edin., M.R.C.P.Lond., Assistant-Physician to the General Hospital, Birmingham.

[After detailing a fatal case of coma with some unusual manifestations, in which, after death, the kidneys were found practically destroyed by the results of calculous disease, Dr. Saundby goes on to make the following observations upon the various theories of uræmic and diabetic coma.]

Confining our attention to cases in which the urinary excretion is obviously at fault, two very distinct types of toxic disturbance may be recognised. In the first the patient has a moist tongue, headache, loss of vision, vomiting or diarrhœa, convulsions, and coma. This is the classical type of uræmia associated with Bright's disease. In the second the patient is in a typhoid condition, with dry tongue and a feeble pulse, but his intelligence and special senses are normal, and there may be neither convulsions nor coma, and yet such a patient may not excrete by the urinary passages a single drop of urine for days or even weeks. Such symptoms are met with in cases of obstructive suppression of urine.

It is very hard to explain these differences on the assumption that the simple retention of urine in the blood is the cause of either of them. When we go a step further, and enquire into the various theories that have been propounded to explain these phenomena, we find our difficulties increase.

These theories may be divided into two groups: *(a)* Mechanical *(b)* Chemical. In the first group, Owen Rees, Traube, and Rilliet have attributed the nervous phenomena to œdema of the brain, but this view has failed to meet with acceptance, for the brain may be very œdematous without causing convulsions. The œdema observed so invariably by Traube is probably the consequence rather than the cause of the convulsions. This led to the theory of Rosenstein, who supplemented Traube's hypothesis by imagining that the initial change was a vaso-motor constriction of the cerebral blood vessels, leading to convulsions by cutting off the blood supply, and followed by exudation of serum into the lymph spaces of the brain. But plainly such an hypothesis needs supplementing by the assumption of the presence of some toxic agent capable of stimulating the vaso-motor centre, and this leads us to those chemical theories which have attracted most attention in later years.

The chief chemical theories are:—(1) That it is due to urea in the blood, hence the name uræmia, originally given to it by Piorry, and which was supported by Christison. This theory is the one which, in spite of opposition, has managed to hold its ground; although numerous experimenters have failed to produce any toxic phenomena by the injection of urea into the blood of animals or by making them ingest quantities of urea with their food.

(2) The theory of Frerichs and Treitz, that the urea is converted into carbonate of ammonia in the intestine which is re-absorbed into the blood. With reference to both these theories Dr. Roberts, in the last edition of his work on urinary and renal diseases, says (p. 433): "The recent experiments of Oppler, Schottin, Perls, and Zalewsky seem to have given the *coup de grace* both to the ammonia and to the urea theories of uræmia." (3) It has been suggested by M. Gautier that ptomaines may play some part in the phenomena of uræmia, but this remains at present a barren hypothesis. (4) Voit, Feltz and Ritter, and Astaschewsky, have proved by a number of careful experiments that the potassium salts of the urine alone are capable, when re-introduced into the circulation, of producing phenomena resembling those of so-called uræmia. This conclusion, while apparently supported by good experimental evidence, is so much opposed to the preconceived opinions of the profession that it has made but little way.

The conflict of experimental evidence is unfortunately so frequently the result of that method of investigation, that I have come reluctantly to the opinion that it justifies the condemnation of it expressed by Bartels. Speaking of this very question of uræmia, he says:—"One of the chief reasons why we are compelled, even at the present day, to confess our inability to solve this question, lies, as I believe, in the circumstance that our attention has been chiefly devoted to experiments upon animals—a useful enough adjunct in research—while the prime source of our knowledge, clinical observation, has been all too little tapped."

Professor Gamgee thinks that uræmic phenomena depend upon many factors. The blood is rich in water, poor in albumen and corpuscles, and contains, besides urea and uric acid, "an excess of other proximate principles which may exert a specially poisonous action."

Vulpian and Bouchard regard the clogging of the tissues with non-eliminated waste products, and the consequent impairment of nutrition, as the real cause. Voit says, "Symptoms of disease originate wherever any substance which does not belong to the economy accumulates within the body, and is not eliminated from it;" and he proceeds to explain that it is not any particular substance which does harm when the urinary secretion is suppressed, but the total mass, any extraneous salt, such as sulphate of soda, being equally deleterious under similar circumstances. The toxic effects are the result of the interference with the normal exchanges which take place between the blood and the tissues, and upon which the vital phenomena of the latter depend.

We should not fail to notice that the broad clinical distinctions already pointed out, which are presented by cases identical so far that in both instances the urinary excretion is diminished or abolished, have received no elucidation, and, in fact, do not seem to have attracted the attention of these enquirers.

But these types are associated with fundamental pathological divergences. In the first type, the classical uræmia, the kidney is the organ primarily at fault. It is this type which we see in scarlatinal nephritis, and especially in the later stages of the contracting kidney. On the other hand, the second type is that met with in bladder diseases, and in suppression of urine by the impaction of calculi in the ureters.

It is difficult, nay impossible, to understand, why sudden suppression of urine or the nephritis of scarlatina should be followed by an attack of convulsions, while suppression by a calculus gives rise to no nervous phenomena; and the remarkable and well authenticated cases of hysterical suppression of urine without any uræmic phenomena at all make the problem still more obscure.—*Medical Times and Gazette, Nov.* 1, 1884, *p.* 607.

39.—ON SOME OF THE VARIETIES OF DYSPNŒA MET WITH IN BRIGHT'S DISEASE.

By R. P. Howard, M.D., Professor of Medicine in the McGill University, Montreal.

In speaking of *some* of the varieties of dyspnœa met with in Bright's disease, I will simply mention and dismiss without further consideration that common variety observed in both parenchymatous and interstitial nephritis which is largely referable to organic affections of the respiratory organs, such as bronchitis, hydrothorax, pulmonary œdema, etc. This variety is not apt to be overlooked when the cause of the dyspnœa is investigated, although even in it the respiratory disturbance is probably not due solely to the structural lesions revealed by the physical signs. This paper will rather be confined to some of those varieties of dyspnœa and disturbed respiration, met with in Bright's disease, not dependent upon discoverable disease of the lungs, pleura, or heart; and in describing them, I will do so in a clinical way in connection with some of the cases in which they were observed by myself.

[The following cases are given as types of some of the forms of uræmic dyspnœa :—

Case 1.—Early and prominent dyspnœa, unexplained by the state of heart or lungs, associated with albuminuria, great tension of the radials, and signs of a strong left ventricle, in a man æt. 50, who subsequently died with general dropsy.

Case 2.—Paroxysms of "asthma" alternated with continuous dyspnœa, associated with abundant and albuminous urine, in a man æt. 49.

Case 3.—Severe dyspnœa on the slightest exertion was the first symptom which compelled the patient to seek advice. It was frequently attended by severe anginiform attacks. Patient, a female aged 57, presented unequivocal evidence of chronic interstitial nephritis.

Case 4.—Cheyne-Stokes respiration in a man, æt. 52, the subject of chronic Bright's disease.]

Respecting the pathogeny of these several forms of dyspnœa observed in Bright's disease it will not be wise to speak at any length, as it would unduly prolong this paper. That the *continuous* dyspnœa and the *paroxysmal* or *asthmatic* forms are of uræmic origin there can be little doubt, and it is highly probable that in chronic Bright's disease the condition of the blood also plays its part in the causation of the persistent shortness of breath sometimes present. The blood globules are not only reduced in number, but their power of absorbing oxygen is much diminished, and an increased respiratory effort—a dyspnœa—results. The Cheyne-Stokes disturbance of breathing of Bright's disease is probably also a consequence of what is called uræmia.

It is true that Cuffer has produced the Cheyne-Stokes type of breathing readily in dogs by injections of carbonate of ammonia, and less promptly and severely by injections of creatine; and that he regards these principles as the active agents in the production of uræmia. But the explanation of uræmia is not settled; nor is that of Cheyne-Stokes respiration; and it is no part of my plan to discuss the numerous hypotheses extant regarding them.

Besides these several varieties of dyspnœa observed in Bright's disease, there is yet another of much more rare occurrence, and of which but two examples have presented themselves in my practice.

About 25 years ago a young woman entered the Hospital under my care, suffering from acute renal dropsy and urgent dyspnœa, which could not be explained by physical examination of the chest. There was some evidence of laryngeal obstruction, not at all characteristic, when I saw her, and she died rather suddenly before my next visit. At the autopsy, very considerable serous effusion was found in the false vocal cords, the aryepiglottic folds, and in the posterior aspect of the arytenoid region of the larynx. Apart from these laryngeal conditions, and kidneys exhibiting the early stages of acute parenchymatous nephritis, there was nothing found in the cadaver to account for the fatal dyspnœa. Neither coma nor convulsions had preceded death.

It was not till fifteen or more years after the preceding case that a second one of severe *laryngeal* dyspnœa in Bright's disease crossed my path. The subject of it, a man of about 36, had been about a week ill with ordinary scarlatinal dropsy. His children were still passing through that contagious disease. Suddenly he experienced some difficulty of breathing, which steadily increased. An examination of the chest revealed nothing capable of accounting for the decided and progressive dyspnœa. On the other hand, there were signs of laryngeal obstruction—viz., depression of the base of chest and episternal pit during inspiration; sense of obstruction in the larynx, with feebleness of voice; weak respiratory murmur in lower parts of lungs, unattended by dulness on percussion, etc. On the second day these symptoms had become so urgent that, in consultation with Dr. Drake, it was agreed to perform tracheotomy at once. The introduction of the tube gave instant relief to the dyspnœa, and so far confirmed the correctness of the diagnosis.

I have never met with laryngeal dyspnœa in chronic interstitial nephritis, and its rarity in the parenchymatous form is proved by the few examples of it mentioned in the monographs upon Bright's disease. In this paper I have endeavoured to illustrate the following points:—

1st, That marked dyspnœa may occur in Bright's disease not due to gross lesions in the lungs, pleura, or heart,—such as inflammation or œdema of the lungs, hydrothorax, or pleurisy with effusion, endo- or pericarditis, or valvular disease.

2nd, That it may be a continuous dyspnœa, or of paroxysmal character, resembling ordinary spasmodic asthma; and that these types may occur in the same case, although, in my experience, the continued variety is more frequent than the asthmatic.

3rd, That these forms of dyspnœa may occur as the prominent symptoms of renal disease, and their origin may escape recognition if the urine be not carefully examined, as well as the heart and pulse.

4th, That Cheyne-Stokes respiration is often a symptom of Bright's disease, and that it obtains in both acute parenchymatous and in chronic interstitial nephritis.

5th, That while usually an evidence that the fatal issue is near at hand, it may occur in a chronic form, and may occur for weeks, perhaps even for years.

6th, That these several forms of dyspnœa just mentioned are very probably due to that defective renal elimination called uræmia.

7th, That in the acute forms of Bright's disease, serious or fatal dyspnœa sometimes, but rarely, occurs in connection with effusion into the submucous membrane of the larynx, so called "œdema glottidis."—*Canada Medical and Surgical Journal, Nov.* 1884,*p.* 193.

40.—ON WINTER HÆMOGLOBINURIA.

By Professor Nothnagel, Vienna.

The patient I show you has a somewhat rare complaint. He says that when he goes out in the cold in winter, and his feet get chilled, he suffers from peculiar sensations; he is seized with a shivering throughout the whole of his body, and afterwards he feels hot and perspires profusely. These are febrile symptoms which remind one of malaria. The patient suffered from various acute infectious diseases during his childhood, and at the age of 18 he contracted syphilis. Three years ago he had the first of his present attacks following exposure to cold, and during the present winter the attacks have occurred so frequently that the patient is almost afraid of going out when it is cold. It is a very strange affection. He further states that during the attack he suffers from great thirst as long as the shivering lasts. We cannot conclude that this man's affection is of a malarious nature, for its occurrence is irregular and dependent upon the influence of cold. Moreover, he states that he has no attacks during the summer, but only in winter.

When one hears of such strange symptoms, one's first idea is to ask the patient what is the appearance of his urine, what is its colour. Now the patient says that on making water immediately after an attack the urine is black, but what he passes subsequently is clear. Here is a specimen of this black urine; it looks as if it contained blood. We will examine the urine, after the method of Heller, to see if this is so. We boil the urine with caustic potash, the phosphates fall to the bottom of the glass, and you see that the precipitate has a brownish red colour due to blood-pigment being mixed with it. On microscopical examination, we do not find any red blood-corpuscles. The urine contains albumen, for on heating it we obtain a flaky sediment. This sediment has a red colour, while the urine, when separated by filtration, is quite clear. This shows that the blood-pigment is entirely carried down by the precipitate. If we now boil the sediment with alcohol which has been rendered acid with dilute sulphuric acid, the alcohol absorbs the blood-pigment. The blood-pigment therefore exists free in the liquid, and not in combination with red blood-corpuscles. In those cases in which we find blood in the urine we call the affection hæmaturia, and the blood may be derived from the bladder, from the ureters, or the kidney. In all such cases we find red blood-corpuscles in the urine, and we have good reason to call the affection hæmaturia. But there exists another class of cases in which the urine is also coloured with blood, and in which you find blood-pigment too, examination with the spectroscope showing the characteristic absorption lines of hæmoglobin. On examining a drop of the urine under the microscope, however, you do not find a sign of a red blood-corpuscle. You find, instead of red blood-corpuscles, a detritus which has a brown or blood red colour. We call such an affection hæmoglobinuria.

This affection occurs under different conditions, the number of which has very much augmented with the increase of our knowledge in the last fifteen years. First we observe hæmoglobinuria in cases of poisoning; for instance, with carbolic acid, or with other acids, as sulphuric and phosphoric acid; also in cases of poisoning by arseniuretted hydrogen: secondly, in burns of the skin: thirdly, in certain acute infectious diseases, as, for instance, scarlet fever and typhoid. In all these conditions the affection is rare, they are *not* usually accompanied by hæmoglobinuria. But we had an opportunity of observing hæmoglobinuria in a large number of cases about ten years ago, when the treatment of consumption and carcinoma by the transfusion of lambs' blood was in vogue. It was shown that when the blood of an animal of one species is transfused into the system of one of another species, it is injurious to the latter, but when transfused into one of the same species it causes no harm. If one transfuses blood from a lamb into a dog, it may prove fatal to the latter, just as it might to a man treated in a similar way. The serious symptoms observed in such a case are to be considered as a direct consequence of the transfusion, the blood-corpuscles of one species having a pernicious influence on those of another. Landois has shown that marked hæmoglobinuria occurs in such cases, which he attributes to the fact that the red blood-corpuscles are dissolved; it is therefore an artificial hæmoglobinuria. Besides this there exists a form of hæmoglobinuria which is to be considered as a special affection, and which has been termed winter or paroxysmal hæmoglobinuria. In general, this disease is seldom met with.

The patient is seized with it in paroxysms, hence the name paroxysmal. In the intervals he is perfectly well, though exhausted and weak owing to the loss of the blood-corpuscles which have been destroyed, but besides this general weakness he does not complain of anything. The attack is in most cases produced by cold, and for this reason the affection is chiefly observed in winter, whence the alternative name "winter" hæmoglobinuria. It is the effect of cold on hands and feet which especially produces the affection.

The sensations of the patient in the attack are very unpleasant: he yawns constantly; he is then seized with shivering through the whole of the body, which is followed by heat and perspiration (a temperature of 40° C. and upwards has been observed). The patient then passes urine which is of the colour of blood; the same colour may be noticed two or three times in the subsequent twenty-four hours, and then it disappears. The albumen in the urine coagulates and forms a compact mass which rises to the surface and has a brown colour due to the blood-pigment which it contains. If you boil this sediment with alcohol rendered acid by dilute sulphuric acid, the pigment is absorbed by it, and the sediment remains uncoloured. Sometimes casts are to be found in the urine, but this is an exception; there may, indeed, be blood casts, for the hæmoglobin may coagulate while still in the urinary passages. We know by our experience in cases of transfusion that the coagulated hæmoglobin may even block the urinary passages. Sometimes hyaline casts are also to be found. When the attack has passed off, the casts disappear together with the pigment, and the urine again becomes clear. The attacks may occur at different intervals, and they are very injurious to the patient, for they have the same influence as losses of blood.

How does hæmoglobinuria arise? Probably by the influence of cold. If we make blood freeze, the blood-corpuscles are destroyed, and we have then blood with a colour like lac dye. During the attack there circulates in the vessels ruby-coloured blood; that is to say, besides the red blood-corpuscles there is there free hæmoglobin; this fact was proved by the abstraction of blood by means of a cupping-glass during an attack. Clinical observation thus entitles us to suggest that it is the influence of cold which destroys the blood-cells. We believe that in these cases the red blood-corpuscles have less resistance to low temperatures than usual, and are destroyed; the hæmoglobin is said to have an influence on the vasomotor centre, hence the shivering, followed by heat and perspiration. As to the prognosis, the disease lasts in some cases several years and then disappears suddenly. In some patients we obtain good results from anti-syphilitic treatment, even when the disease has not a syphilitic origin. Besides this the patient must have good nourishment; he must live on meat, milk, eggs, and wine, and iron must be given to him. If we do not succeed in curing the patient in this way, we must order him to a milder climate during the winter.—*Medical Times and Gazette, Sept.* 27, 1884, *p.* 425.

41.—ON THE RELATION OF KIDNEY DISEASE TO GOUT.

By Professor Virchow, Berlin.

Virchow (*Berliner Klin. Wochensch.*, 1884, No. 1) disputes the current belief that gout stands in close relation to the occurrence of uric acid calculi in the urinary passages. Renal and vesical calculi and sandy deposits are rare in the gouty (!) But it is not rare in his experience to find deposits of urates in most diverse parts in the bodies of persons who have never presented during life any distinct gouty phenomena.

Gout, therefore, may be latent, and this is generally the case among the poor. Virchow would admit two forms; that of the rich, with well-marked arthritic attacks, and that of the poor, in which these are absent, but which must not be confounded with arthritis deformans, often called "poor man's gout." He has only once seen deposits of urates, and the nodosities of this last disease in the same body. In gouty persons the kidney is often the seat of infiltrations of urates, not calculi. Ebstein has asserted that these infiltrations occupy the interstitial tissue of the kidney. Virchow has always found them in the tubules, principally in the medulla, in the middle part of the pyramids, more rarely in the peripheral part, or in the papillæ. Coincidentally, there generally are deposits in other parts—*e.g.*, the joints. The kidneys of gouty persons also present the alterations of interstitial nephritis described by Garrod; they are seated in the cortex, and give rise to cicatricial retractions. Between these foci, the renal parenchyma is healthy. Generally speaking, the epithelium remains healthy.

Virchow thinks the renal changes and the joint-affections are due, not to the deposit of urates, but to the irritation of blood loaded with urates. In illustration of this, he relates an observation made upon himself. After several slight gouty manifestations in his fingers, but without ever having had an attack of true gout, he was seized with symptoms indicating violent irritation of the urinary tract, with intense fever, and purulent urine. He was at a loss to account for this, until he found, on adding acetic acid to his urine, when examining it with the microscope, that innumerable crystals of uric acid were formed. He immediately placed himself on an alkaline *régime*; the former symptoms disappeared, and the urine at the end of three months was quite normal. Evidently the urate of soda in solution in the blood and urine was the irritant.

There are sometimes in the kidney white calcareous deposits, which are regarded as formed of urates. They may be formed either in the walls of a tubule, or in its lumen. They may be complicated by the changes of interstitial nephritis. (Reported by Dr. R. Saundby.)—*Medical Record, Nov.* 1884, *p.* 467.

42.—PEPTONE IN THE URINE.

The presence of peptone in the urine was first discovered by Frerichs in a case of acute yellow atrophy of the liver, and his observation has in later times been confirmed by Schultzen and Riess and others, not only in idiopathic acute yellow atrophy, but also in those cases which occur as the result of acute phosphorus poisoning. Gerhardt found peptone in the urine of patients suffering from enteric fever, pneumonia, tertiary syphilis, and again in phosphorus poisoning.

Maixner has shown that the occurrence of peptone in the urine was in the greater number of cases associated with accumulations of pus in the body, and he pointed out that pus contained peptone identical in composition with that of the urine.

Von Jaksch has described another form of peptonuria, which he believed to be due to the breaking up of the lymphatic elements in the blood. Possibly this may be the cause of the peptonuria in phosphorus poisoning. For this form von Jaksch proposed the name hæmatogenic peptonuria, as distinguished from the former kind, which might be styled pyogenic.

To these Maixner proposes now to add another variety under the name of enterogenic. He has found peptonuria in twelve cases of carcinoma of the stomach and in five cases of enteric fever. For the detection of the peptone he precipitated it with phospho-molybdate of soda, and afterwards decomposed the precipitate with barium hydrate, the resulting solution giving the biuret-reaction of peptone. Albumen and mucin, where present, were previously removed.—*Medical Chronicle, Nov. p.* 162.

SURGERY.

AMPUTATIONS, FRACTURES, DISLOCATIONS, AND DISEASES OF THE BONES, JOINTS, ETC.

43.—ON CORROSIVE SUBLIMATE AS A SURGICAL DRESSING.

By Sir JOSEPH LISTER, Bart., F.R.S., Professor of Clinical Surgery in King's College, London.

[The following Address was delivered by Professor Lister at the opening meeting of the Medical Society of London, Oct. 20, 1884.]

When, in an address delivered at the opening meeting of last session, I expressed myself in what some of my hearers regarded as terms of overweening confidence in the trustworthiness of antiseptic treatment, I little thought that, a year later, I should have to tell you of failures on my own part; yet such is the case. Several instances have occurred, within the last few weeks, of results deviating from our typical experience in antiseptic treatment, such as I was in no way prepared to meet with, and in one case a fatal event ensued. A lady, on whom I operated for scirrhus of the mamma, with removal of the axillary glands, died of a spurious pyæmia, or a variety of septicæmia, an occurrence such as I have not met with for many years past. We dressed the wound in the usual way. Two days after the operation there was pus already present at the anterior part of the incision. There happened to have been an unusual flow of blood at this part, where we do not as a rule expect much. It is a very unusual thing for pus to appear so early. We used to say, in what I may term the pre-antiseptic days, that, if we operated upon sound tissues, suppuration occurred, provided primary union did not take place, in from three to four days, three days in children, four days in adults, and, perhaps, in warm weather, rather earlier than four days. For pus to occur to the amount of several drachms at the end of two days was therefore very unusual, and some special form of organism, I have no doubt, was present. Micrococci were indeed found after death in abscesses which had formed within the pleura. Nevertheless, though I believe some unusual organism was present, we have been accustomed to consider ourselves free from the apprehension of such ill effects; and though no other fatal case occurred, I am thankful to say, there have been several instances of deviation from the typical course, where, instead of union without suppuration at all, we have had healing retarded by the formation of more or less pus, undoubtedly of a septic character—in the sense in which we now use the term septic—that is to say, dependent upon the development of micro-organisms, although no smell was perceptible. Now, I need hardly say that one such result as that to which I have referred, a fatal event under circumstances which we have been accustomed to consider absolutely free from danger, made me reflect most seriously; and the other cases, though less disastrous, were also grave cause for reflection.

In looking for the source of our misfortunes, it was to the external dressing that we naturally turned our attention. With regard to our external dressings, our suspicions tended to turn upon the eucalyptus gauze. Eucalyptus oil is undoubtedly a powerful antiseptic, and I have been using it in the form of gauze for a considerable time past. One difficulty with it is its great volatility. In the first instance I employed gum dammar, instead of common resin, in the manufacture of the gauze, because I found that gum dammar held the eucalyptus oil more securely than the resin does; but gum dammar is an expensive gum, and, after some trials with common resin, I thought I was justified in substituting the cheaper material, and for a while we seemed to get good results with this arrangement. But, as I have already said, more recently the results were not satisfactory. I mean that, now and again, a case occurred which was unsatisfactory. On making inquiry of the manufacturer of our eucalyptus gauze, I found that he had deviated from the instructions which he had received as to the manufacture; that he often left the gauze, for a considerable time after it had been charged, exposed in the air before folding it up, thus affording opportunity for the escape of the volatile constituent in large amount; and in hot weather, such as that during our recent summer, this was more especially apt to occur. We found, as a matter of fact, that the eucalyptus gauze supplied to us had not the softness which it ought to have, caused by the adequate amount of eucalyptus oil. I was thus led to attribute our disasters to imperfection in the manufacture of the eucalyptus gauze.

These circumstances led to a reconsideration of the subject, and to an appreciation afresh of the disadvantages of any volatile antiseptic substance. Volatile antiseptics have their own advantages, to which I need not refer, but they have great disadvantages. In the first place, we are at the mercy of our manufacturer. The resin and paraffin so glue the folds of the gauze together, if it is allowed to cool in mass, that it must be opened up while warm; and upon the way in which this is done by the manufacturer much depends as to the quantity of the antiseptic present in the gauze. In the next place, a volatile antiseptic, such as either carbolic acid or eucalyptus, has the disadvantage that it requires careful treatment by the surgeon himself. The material containing it must be kept in well-closed metallic vessels; otherwise evaporation soon impairs its qualities. And, in the third place, there is this disadvantage attending all volatile antiseptics, that the longer the dressing is kept upon the body the less efficacious does it become; and who is to say when the time arrives when it has become so inefficacious that it is necessary to remove it? I have been accustomed to regard a week as the limit of the time during which a carbolic acid gauze dressing may be regarded as effectual; but beyond the fact that, with this period, our results were, on the whole, satisfactory, we had no precise grounds to go upon. In that respect a volatile antiseptic must always be at a disadvantage, as compared with a non-volatile one, which will be just as efficacious at the end of a month, or six weeks, as it is when first applied, provided it is not soaked with the discharge.

Salicylic acid is a non-volatile antiseptic; but salicylic acid, as I ascertained from experiments several years ago, is very far from being as powerful in antiseptic qualities as carbolic acid, and therefore I have never ventured to use it for serious cases. Iodoform, while volatile, is very slowly volatile, and, at the same time, so little soluble in the discharges, that in these points of view it seems an admirable antiseptic; but iodoform is by no means a potent agent in its action on micro-organisms. I ascertained some years ago, for example, that, taking a 10 per cent. iodoform wool, the strongest used, and soaking this with milk, the lactic fermentation was only a short time retarded, and in the course of a few days not only the *bacterium lactis*, but multitudes of other kinds of bacteria, were seen, in abundance, in the milk. Again, uncontaminated urine being made to soak such a piece of wool, and then inoculated with putrefying urine, I found that the ammoniacal fermentation was only a short time retarded by the iodoform. Hence I was not surprised to learn that in the practice of Schede, of Hamburg, and others, it has been found that erysipelas occurred under the iodoform dressings. It is remarkable that iodoform has such an effect as it has in preventing putrefaction, but it is by no means a powerful germicide.

But there is another non-volatile antiseptic, corrosive sublimate, to which attention has been more especially directed of late years by Dr. Koch; and here I may be permitted to give my tribute of praise to the admirably conceived and conclusive experiments which he has performed upon this subject. Koch proceeds in this sort of way: he dips a very small piece of silk thread into a fluid containing the spores of the bacillus anthracis, known to be highly resisting to the various agencies inimical to low organisms. After this silk thread has become dry, he dips it in the antiseptic solution to be tested, keeping it there for a minute, half a minute, five minutes, or any length of time that is required. He then, by means of water or alcohol, or some fluid known not to influence the vitality of the spores, washes away the antiseptic from the thread, and brings into play his beautiful method of solid culture-material. He places the little bit of silk thread upon a piece of gelatine properly provided with nutritious material, and of course scrupulously pure, and observes, by means of the microscope, whether the spores in the silk thread develop or not. He ascertained by experiments of this character that a solution of only one part of corrosive sublimate in 20,000 parts of water was amply adequate absolutely to destroy the vitality of the spores of the bacillus anthracis, about the most resisting spores that are known. But he found also that as weak a solution as 1 of the sublimate to 300,000 parts of a solution of extract of meat was sufficient to prevent the development of the spores so long as they remained in it; but when the silk thread, having been for any length of time in this exceedingly weak solution, was withdrawn from it, washed, and then placed upon the nutritious gelatine, development occurred as if the spores had not been exposed at all to any injurious agency; and thus Koch established in a most definite manner the distinction, and a very important one it is, between two different effects of antiseptic agents —one, the action by which the vitality of organisms is destroyed; and the other, that by which development is simply arrested, or prevented temporarily from occurring, without the vitality of the spores being interfered with. The former we may term "germicidal action." For the latter, it is somewhat difficult to find a good English term. I happened, I believe, to be the first to use the word "inhibitory" in English physiology, by the advice of my old friend, Dr. Sharpey, with reference to an early paper I was about to publish on what the Germans term the Hemmungs Nervensystem; and as this same word, Hemmung, is used by theGermans for this checking or suspending action of antiseptics, without destruction of vitality, and as it is very important that we should have some term which distinguishes the one action from the other, I may venture to employ this same word "inhibitory"—a good old English word—for this action of antiseptics, and to speak of their "inhibitory action" as distinguished from their "germicidal action."

Now, these properties of corrosive sublimate were such as no other antiseptic agent had ever been ascertained to possess in anything like such dilute solutions. With regard to our purposes in antiseptic surgery, the inhibitory action of the antiseptic would be sufficient, provided we were satisfied that our wound is left free from injurious organisms, and that the dressing which we apply, itself contains no such organisms still alive. Then, all we require is that the dressing should be able to prevent the development of organisms from without into the discharges with which the dressing may be soaked. That is obvious.

Corrosive sublimate has been used extensively already by our German brethren, chiefly in the form of sublimate wood-wool, as it is called, in which ½ per cent. of corrosive sublimate, with an equal part of glycerine, is mixed with what is termed "wood-wool"—namely, pinewood reduced almost to a state of powder by suitable machinery. This is highly absorbent. It is employed in large masses, and, so used, has given many excellent results. At the same time, it is somewhat unwieldy in its application. Under certain circumstances, it is not convenient to have so large a mass as is essential for its safety, and we have also varying reports as to its efficacy; and I may remark that we find some surgeons satisfied with what others would regard as a very mediocre kind of success with antiseptic treatment.

The circumstances to which I referred at the beginning of this address naturally made me turn my attention to corrosive sublimate; and I was desirous, if possible, to use it in a more concentrated form, so that it might be employed in a less bulky fashion; accordingly, I prepared a gauze containing, instead of $\frac{1}{2}$ per cent., 1 per cent. of the sublimate.

The first case in which I used it was that of an elderly lady, from whom I removed the mamma and cleared out the axillary glands. I put immediately over the wound a piece of prepared oiled silk, which I dipped in a 1 to 500 solution of corrosive sublimate; then, over this, sublimate gauze, and outside all an abundant eucalyptus dressing. On the following day, when we changed the dressing, I found that, under the oiled silk, exactly corresponding to its extent, the skin was highly irritated, and was covered with small vesicles. I also found that the inner side of the arm, where there was no wound, was in the same state of intense irritation. I covered the irritated parts of the inner side of the arm with eucalyptus gauze, dipped in a weak solution of carbolic acid, and I applied to the wound the 1 per cent. sublimate gauze without any intervening protective oiled silk. On the following day I found that the little vesicular pustules, which had formed on the first day under the protective, had healed, and that the inner side of the arm also had recovered from its irritation. The wound healed without a particle of pus having been formed from first to last. While this case showed that in the sublimate we had an agent that might give very beautiful results, it also indicated that we were dealing with an edged tool, which, while it might do admirable work, was very apt also to cut our fingers; and the question suggested itself, Was it, after all, possible to use corrosive sublimate in such a way as to get the advantages without the disadvantages? It is, I believe, a very general view in the profession, not to say among professed chemists, that albumen forms, with corrosive sublimate, an insoluble, or very sparingly soluble, albuminate; and that this albuminate is inert; whence the efficacy of white of egg as an antidote in corrosive sublimate poisoning. My first experiment upon this matter was as follows. I made a solution of albumen from white of egg, and then introduced it into some sublimate-wool, the quantity of albumen used being double that which would be requisite to neutralise the corrosive sublimate, according to the view to which I have referred. After leaving the albuminous fluid in the wool for a certain time, I squeezed the wool, and obtained a clear fluid, and I was surprised to find that this clear fluid tasted strongly of corrosive sublimate —an albuminous fluid containing twice the quantity of albumen that was essential, according to the views to which I have referred, for neutralising the corrosive sublimate, had picked up from the wool corrosive sublimate enough to give the fluid that came out a strong taste of that substance. I mixed this liquid with an equal part of milk obtained from a dairy, and the milk remained perfectly free from souring, showing that the albuminous fluid which had come through the wool had antiseptic qualities, as well as the taste of corrosive sublimate.

I found that if serum is mixed in small proportion with corrosive sublimate in a mortar, the result is the production of a thick opaque slimy material; but if you add a little more, and still a little more, you get this material redissolved in the serum, until, if you use as much as 150 parts of serum to 1 of sublimate, you get a clear solution.

While the sublimate is thus associated with albumen, it is rendered very much milder in its action. I took some of the serum which had come through the 10 per cent. wool, containing one part of corrosive sublimate to 160 parts liquid, soaked a piece of lint with it and applied it to my arm, put over this a piece of thin mackintosh cloth to prevent evaporation, and secured this with rubber adhesive plaster. I retained this in position for twenty-four hours, and on its removal found an absolute absence of any irritation, although my own skin is pretty sensitive. The association, then, of the albumen with the corrosive sublimate greatly mitigates its action, and makes it much less irritating. Thus we are able to understand how the discharges coming from a wound soaking a sublimate dressing may not cause irritation, although the dressing may contain a large proportion of corrosive sublimate. It occurred to me, might it not be possible, as corrosive sublimate associated with albumen is so little irritating, to associate albumen with the corrosive sublimate in the dressing? Where should you get your albumen from? Well, we may get it from horse's blood. There are in every town horse-slaughterers. If you stir horse's blood while it is coagulating, you may get from one animal some gallons in the form of serum. There is the albumen for you, if it only can be made useful. There is a horse-slaughterer in the north of London who will let us have this serum absolutely for nothing; it is simply a useless material to him. This being so, I ascertained in what proportions the serum and the sublimate might be mixed, so as to give a workable article; and I find that you may employ them in almost any proportions. If you use a very small amount of serum, you get. indeed, a thick opaque substance; but this can be perfectly well blended with gauze or other materials. Here is a gauze which has been charged with serum containing 1 part of corrosive sublimate to 75. Two and a half parts of the liquid are required for one part of the gauze; and you will see that this is not at all an unpleasantly constituted substance, physically. It is destitute of odour; you will scarcely perceive it to the taste; and you would hardly believe that it contained nearly three parts per cent. of corrosive sublimate.

The corrosive sublimate is so intimately blended with the serum that when it dries (as seen on this plate of glass) no separation of crystals takes place. Whether we use 1 to 100, 1 to 70, 1 to 50, or even 1 to 30 parts of blood-serum, they are perfectly amalgamated, and therefore, from a gauze like that, no corrosive sublimate can fly off. It can be manipulated as you please. And, as applied dry to the skin, it is absolutely unirritating. If, however, such a gauze is torn, it gives off a dust which irritates the nostrils. It is therefore better to cut it with scissors. Then, in the next place, it is unirritating as acted on by the perspiration. If water is made to act on sublimated serum dried, it does not redissolve it, as serum does, but it renders the mass opaque, the water being only partly absorbed into it; and the water which remains unabsorbed contains exceedingly little of the corrosive sublimate, which is almost all retained by the albumen. Hence, when perspiration soaks into such a dressing, though it moistens it, it does not produce irritation. I made some gauze with serum so strong with corrosive sublimate as to have 1 part to 30, which implies more than 6 per cent. of corrosive sublimate in the gauze. I moistened a piece of this with distilled water, and fixed it on my arm for six hours in the manner before described; and when I removed it, I found the skin free from irritation. Thus, you will observe that, by associating albumen with the corrosive sublimate, we seem to be able to get rid of its irritating properties.

But the important question arises, Does corrosive sublimate when thus associated with albumen, retain sufficient antiseptic virtue for surgical purposes? The method of experimenting which I have described is adapted for testing the efficacy of any antiseptic dressing, and I have used it for various others besides sublimated ones. I have employed it with serum for salicylic cotton-wool, for iodoform cotton-wool, for eucalyptus gauze, and for carbolic gauze. I have mentioned that the test is an exceedingly severe one, and I find that after the lapse of a few weeks, salicylic wool soaked with serum and inoculated as above described stinks, and the same is the case with iodoform wool; the eucalyptus gauze, however, if freshly prepared, remains pure, as also does carbolic gauze. We have seen that the 1 per cent. sublimate-wool resisted, still more the 5 per cent. and the 10 per cent. In accordance therefore with our previous experiments with iodoform and salicylic acid, they did not stand the test as well as carbolic acid, or eucalyptus, or the corrosive sublimate. But we get a different result if, instead of using serum of blood, we use serum mixed with blood-corpuscles, such as we readily get from the cow, in which the corpuscles do not aggregate so closely as in the horse, but remain suspended in the serum. I need not, of course, tell any members of this society that the corpuscles are enormously richer in proteid substances than the serum is, so that serum and corpuscles contain about two and a half times as much of proteid material as the serum does; and as albuminous materials mitigate the action of the corrosive sublimate, they cannot fail to interfere more or less, also, with its antiseptic action; and when we use serum and corpuscles, instead of serum only, we find that the sublimated wood-wool (which I should have said did very well with the serum so far as the sense of smell indicates) fails completely. The 1 per cent. sublimate-wool failed also; the 10 per cent., however, stood the test perfectly, even with blood in substance. Now, as to our gauze made with albumen associated with the sublimate, the sero-sublimate gauze. Such a gauze, prepared with 1 part of sublimate to 100 of serum, stood the test absolutely when tried with serum. It therefore proved itself superior to salicylic and to iodoform wool. But with the blood in substance, how does it behave? The tube in this bottle contains a portion of the gauze treated with the cow's blood, serum, and corpuscles, and inoculated nearly a month ago in the same potent manner to which I have referred, and you will observe that it has no putrid odour. Really, then, this sero-sublimate gauze seems to stand the test completely. I may say that, when tried with corpuscles and serum, our best eucalyptus gauze failed utterly, so that everything failed that I have tried except the stronger sublimate preparations and the carbolic acid gauze.

Then the question comes, How far may we go in the strength of our sublimate combined with the albumen without causing irritation? During the last three weeks, my cases at the hospital have been dressed with this material. We have used the kind of gauze which you have in these bottles, made with 1 of sublimate to 100 of serum, and also one made with 1 of sublimate to 50 of serum. We find that the 1 to 50, in the majority of cases, has caused no irritation whatsoever, but in a very few it has caused some irritation, which, however, has disappeared, and the sores caused by the 1 to 50 have healed when the 1 to 100 has been substituted for it. Therefore it looks as if we were very near our limits; as if that prepared with 1 of sublimate to 100 of serum was trustworthy and unirritating, even to all skins, and that prepared with 1 to 50 was unirritating to most skins. Now, there is this to be observed for our comfort, that the discharge both from wounds and from abscesses antiseptically treated is a serous discharge, not a bloody one, except in the case of wounds during the first twenty-four hours;

and even in the first twenty-four hours, except in cases in which the dressing has to be taken down for reactionary hemorrhage, the blood is always more or less diluted with serum. If, therefore, we have a dressing which has stood our severe test with serum mixed with the full amount of corpuscles, we are surely not wrong in regarding it as trustworthy.

Last Friday I amputated at the hip-joint in a boy twelve years of age, on account of a sarcoma of the lower half of the femur. The wound was exceedingly vascular, and there was a great deal of bloody oozing in the first twenty-four hours, but very little escaped externally, because this gauze absorbs very much better than our carbolic acid or eucalyptus gauzes do, containing as they do resin and paraffin; and I would strongly recommend that during the first twenty-four hours this gauze should be used in abundance, in at least sixteen layers. It is now three days since the operation was performed, and, from the perfectly normal temperature and returning appetite and strength, I think we may be satisfied that the boy is already out of risk of septic complications. And this, you will observe, is a very testing case.

I may mention one other case, that of a boy six years old, from whom, nearly three weeks ago, I removed a portion of a rib for the purpose of allowing free drainage to empyema. We let out thirty ounces of thick odourless pus, and a great quantity came out afterwards. He has been dressed with sero-sublimate gauze; and he is one of the instances in which gauze prepared with the 1 to 50 serum caused irritation which disappeared under the 1 to 100.

In him we have witnessed the beautiful course, which, I believe, we can only see under antiseptic treatment efficiently managed, of no more pus formed after the first pus has been evacuated, nothing but a serous oozing, rapidly diminishing; and it was astonishing to see, on coming back after a fortnight's absence, how plump the emaciated little fellow had become. And the serous discharge is now so slight that I believe it would be already safe to remove the drainage-tube. This case, I think, proves that our dressing is aseptic, that the germicidal properties of the corrosive sublimate have come into play in the preparation of the dressing, so that any injurious organisms which existed in the blood or in the gauze before they were brought into preparation, have been destroyed; because, if there had been merely the inhibitory influence of the sublimate upon the organisms, the serum pouring out from the pleura, and washing away all the antiseptic in the vicinity of the wound, but leaving the organisms lodging among the fibres, then we should have had putrefaction or other disturbing causes showing themselves. No such thing having occurred, this case seems of itself sufficient evidence that our dressing is really a safe one, in so far that it contains no living organisms of importance to start with.

I have here a sample of a very cheap fibre, sent me from the south of France, prepared with this sublimated serum, and then teased out, showing that we may use this material for charging various fabrics. This is highly absorbent; and I may remark that, if we have a very highly absorbent dressing, we may, and must, use a larger proportion of the sublimate. A gauze will absorb only about three times its weight of liquid; cotton-wool will absorb ten times its weight; and therefore, you observe, when the one dressing is saturated it has three times as much of the liquid in it, and thus has the sublimate three times as much diluted. Being so much diluted it will be in proportion less irritating, but the stronger proportion is required to make it safe unless you use it in a very large mass. I believe the French charpie, made of old rags, or even old rags themselves, might be quite well prepared with sublimated serum. I have here some rags which have been so treated, and which are quite absorbent, and therefore the dressing promises to be a very cheap one. If the serum is treated with a certain proportion of sublimate, not sufficient to make it solid, it may be kept for any length of time. For aught I know, this sublimated serum may come to be an article of commerce, which may be used in hospitals, or even in private practice. I also think it possible that a material of this kind, dried and reduced to powder, may come to be used for the purpose of mixing with vaseline for an antiseptic ointment, or even for dusting in, under certain circumstances, among our dressings.

I regret that time has not allowed me to bring this matter more completely to an issue as regards its practical application. At the same time, though the subject is, to a certain extent, immature, I ventured to hope that the interest of some of the points to which I have referred might justify me in bringing it before your notice.—*Lancet, Oct.* 25, 1884, *p.* 723.

44.—ON TURF-MOSS AND SAWDUST AS SURGICAL DRESSINGS.

By Lewis S. Pilcher, M.D., Brooklyn, U.S.

Turf-Moss.—This is the ordinary turf- or marsh-moss, growing in all temperate climates in damp and low places, and especially familiar to us from its use by florists as a bed in which to thrust the stems of flowers and plants, and by nurserymen as a packing about the roots of shrubs and saplings that are to be transported some distance. It answers these purposes by reason of its power of sucking up and retaining moisture. The *Sphagnaceæ*, or turf-mosses, of which there are a number of varieties, have their stems and leaves of a cellular and reticulated structure; a comparatively small proportion of the cells and spaces entering into their structure are filled with chlorophyll, the greater part of them being empty in the dry state, but rapidly sucking up and swelling out with fluid when brought in contact with moisture, the rapidity of this filling with fluid being facilitated by the existence of numerous perforations, communicating with the external air, that exist in the walls of the cells. This absorbing power eminently fits it for use as a wound-dressing. For this purpose, having been gathered and sorted over to free it from perceptible impurities, it is dried, and is then ready for use. It may be used either in the natural state or after having been first impregnated with some antiseptic, as corrosive sublimate or naphthalin. Unless this latter is done, the moss is likely to develop an unpleasant smell after it has been kept applied to a wound for a week or so. To Leisrink, of Hamburg, is due the credit of having introduced the use of this material, which he did in a communication to the "Berliner klinische Wochenschrift" in the fall of 1882. In the spring of 1883, it was made the subject of a communication to the German Surgical Congress by Hagedorn, of Magdeburg; and at the present time it is almost exclusively used as a wound-dressing in some of the largest clinics of Germany. It is used, made up into pads or cushions of various sizes, by inclosing the dried and prepared moss in bags of coarse gauze, smaller and softer pads, made out of the partly pulverised particles, being used to place directly upon the line of the wound, while larger cushions are applied over these so as to cover an area some distance in every direction from the wound, and, in the case of the limbs, quite encircling them. It answers admirably for purposes of protection and compression by means of its softness and elasticity, as well as for the main object of absorption. I consider it a most valuable addition to the list of wound-dressings, and one which deserves to become popularized in the United States.

Sawdust.—In this cheap and despised material we have likewise a very superior substance for making absorbent wound-dressings. Compared with the other wood preparations that have been introduced—*i.e.*, wood-wool and wood-flour—I think it is to be preferred, for it is practically as absorbent, and is much cheaper and more readily obtained. The fact that as an absorbent it answers all practical purposes, while it can always be obtained, and with little or no expense, leads me to think that it is destined to become the most universally used of all dressing materials in general practice. There was a hope that in absorbent cotton a most desirable and generally available agent for wound-dressings had been found, particularly as it was easily impregnated with various antiseptic substances, but, although unequalled as a protective and compressing agent, it has failed as an absorbent material. My observation is that only a limited layer of the cotton, immediately adjacent to the wound, absorbs, and that this quickly forms a crust which retains the discharges beneath it, or prevents their further escape from the wound. In this way I have been repeatedly disappointed in its use, and balked in my efforts at the drainage of wounds. For this reason I would reject it altogether as an immediate dressing, and reserve it only for external protective purposes. But even here it can be supplanted by quilted cushions of sawdust at a tithe of the cost. The dust obtained from soft and absorbent woods, as white pine, poplar, or basswood, is desirable if it can be obtained. It should be quite fine, and, if necessary, should be passed through a sieve to separate the coarser particles. It absorbs more readily and evenly if it is a little moist when applied, and for ordinary purposes it may be moistened to advantage with a dilute solution of corrosive sublimate, 1 to 1,000, at the time of using. The corrosive sublimate, of course, soon decomposes when thus mixed with the sawdust, and cannot be depended on for maintaining a prolonged aseptic condition of the dressing. For this reason, a sawdust dressing, if long retained, after becoming in some degree filled with wound-secretions, will become sour and smell unpleasantly. This may be obviated by mixing in with the sawdust, already dampened with the corrosive sublimate, a small amount of naphthalin; and a dressing so prepared may be retained for a prolonged period without becoming a source of danger or offence.

The sawdust is to be made up into pads or cushions with purified and absorbent gauze. This prepared gauze is simply the ordinary cheese-cloth of the shops, which has been boiled in a dilute solution of caustic soda or of potash for several hours, then repeatedly rinsed, and finally dried. This should finally be immersed for a few minutes in the corrosive sublimate solution before it is used. With these means, pads and cushions of any size may be made from two inches to half a yard square, having a general thickness of about one inch, the sawdust being prevented from shifting by occasional through-and-through stitching or quilting with thread.—*New York Medical Journal, Sept.* 6, 1884, *p.* 255.

45.—ON HIGH AMPUTATION FOR SENILE GANGRENE.

By Jonathan Hutchinson, F.R.S., Emeritus Professor of Surgery to the London Hospital, &c.

My wish in writing the present paper is to claim the attention of the Society to the advantages of amputation high up in all suitable cases of senile gangrene. The practice of amputation for this disease has, I believe, been almost universally discouraged from the belief that it is generally followed by sloughing of the stump. I wish to urge that this occurs only when the part is removed too near to the disease. If done low down, then I fully admit that the condition of the vessels will rarely be found to be such as to admit of repair, and that gangrene of the stump will usually occur immediately, and place the patient's life in much more danger than before.

As regards these operations I have had but little experience, having long believed that they were most unadvisable. The few trials that I have made have fully confirmed this opinion, and I would abstain as scrupulously in senile gangrene as in frost-bite from any interference with the knife near to the dying part. If, however, we go much higher up and amputate through parts which are still well supplied with blood, the results are quite different.

By operations of this kind I believe I have repeatedly saved the patient's life. By "amputation high up," I mean, in the case of gangrene of the foot, above the knee; and in that of the hand, at or near the shoulder-joint. By senile gangrene I mean chiefly gangrene in connection with calcification of arteries, but I wish to be understood to include all cognate conditions, that is, all in which the death of the part occurs in connection with slowly progressive interference with the supply of blood. In the strictly senile forms this interference is usually greatest in the distal part of the arterial system, and it is of a nature to be steadily on the increase. Hence the hopelessness of improvement and the great danger of advance. It is impossible that any collateral circulation can be established.

In cases of gangrene from occlusion of the main trunk without disease of the smaller branches, as, for instance, from embolism or from ligature, the conditions are different. Here there is hope that, when the collateral circulation shall have become established, repair will take place with exfoliation of the sphacelated parts. Yet there are some cases, even of this kind, for which I think high amputation may become advisable. Certainly, amputation near to the gangrenous part should always be avoided unless, indeed, when after repair has considerably advanced there is proof of well-restored circulation. Cases of frost-gangrene stand in some sense midway between these two classes; they are examples of gangrene from distal suspension of circulation, as in the senile cases, but the cause is not, as in the latter, a permanent one. There is hope of restoration of the supply of blood. Nevertheless, all authorities are, I think, agreed that this restoration is never sufficiently perfect to make it wise to attempt the removal of the affected parts, and that it is necessary to leave this almost absolutely to natural processes.

Before proceeding to narrate my cases, it will be well that I should here introduce a brief summary of what has been done by others in the same direction.

The proposal to amputate high up in cases of senile gangrene is not absolutely novel. In fact, a discussion which bore closely upon it took place more than thirty years ago. On that occasion the late Mr. Garlike of Rickmansworth brought forward a case in which he had amputated in the upper part of the thigh, in a man aged 69, who suffered from senile gangrene in his foot. There was ossification of the femoral artery, and there could be no doubt as to the real nature of the gangrene. The case, however, did not imply any proposal to amputate high up as the best treatment for gangrene of this kind, since it was only determined on after suppurative destruction of the knee-joint, when there was no longer any choice as to the site of the operation, and could be but little difference of opinion as to its absolute necessity. The case, notwithstanding, is a good example of complete recovery under the somewhat desperate conditions referred to.

Mr. John Adams, my late colleague at the London Hospital, mentioned a case of recovery after amputation for senile gangrene, but the precise part at which the amputation was done is not specified. Mr. Fergusson mentioned that he had operated in a single case, but without success, and spoke with decided disparagement of the practice. To Mr. James, of Exeter, belongs, I believe, the credit of having definitely proposed the line of practice which I shall endeavour to support. Indeed, I believe in one case that he actually did what I only proposed to do, but was not allowed by my patient to carry out, viz., to amputate both the lower extremities. I cannot find that any surgeon, writing since this discussion took place, has recommended the practice, or even thought it worthy of serious consideration.

Even before the date referred to, Mr. Langstaffe and Mr. Guthrie had each of them in single cases amputated above the knee for senile gangrene of the foot. Mr. Langstaffe's patient died in consequence of the hemorrhage within twenty-four hours, but in Mr. Guthrie's case the stump was almost healed when death from exhaustion occurred. Mr. Mott had, I believe, also done a single operation of the same kind.

Thanks to modern improvements in the details of operations and the management of wounds, the surgeon of to-day approaches the subject with great advantages.

As regards the risk of hemorrhage during the operation, the use of Esmarch's bandage unquestionably gives much real assistance. The calcified arteries, even those of the smallest size, are very easily found, and, if tied with their accompanying veins in one loop and with a moderately thick ligature, I believe no difficulty will be found in making them secure.

Some years ago, I had a case in the hospital in which the conditions causing the gangrene were complicated, and in which the safety and advantages of high amputation were very strikingly exemplified. The patient was a strong-looking man, of not more than thirty, who had served as a soldier in Canada. There he had suffered from frost-bite of the left foot. It was not, however, followed by immediate gangrene, and a year later he came into the London Hospital with an ulcer on the foot which had destroyed several toes, which would not heal, and which every now and then showed a tendency to spread at its edges by fresh sloughing.

After he had been some time under observation, my colleague, Mr. Little, during the summer vacation amputated through the tarsus. When I resumed duty I found the face of the stump gangrenous and the condition of things worse than before. It was now discovered that the femoral artery in the thigh was obliterated. I decided to amputate again, and to do what I then considered a high operation. The leg from the ankle upwards was perfectly healthy, and I amputated just below the knee. The result, however, was that the gangrene attacked the stump, and this time it was an acute form and rapidly spread upwards. The man became exceedingly ill, sick, and delirious, and in this condition I amputated again high up in the thigh and with the most happy results. All the septicæmic symptoms at once subsided, and the stump subsequently healed perfectly.

It occurs to me as very possible that in this case the occlusion of the artery may have been the unsuspected cause of spreading gangrene which took place soon after the frost-bite. My next case seems to be an important item of evidence in this direction.

A man, æt. about 65, received a slight burn in the left hand. The result was spreading gangrene of the fingers, for which he came into the London Hospital. A large part of the hand was then black and sphacelated. We found that he had no pulse at the wrist, and that his brachial artery was a solid thick cord. In the axillary, pulsation could be felt. During the next ten days the occlusion extended higher up and involved the axillary. The old man was very ill, and clearly about to die if not relieved. I amputated just below the shoulder-joint, and found the main artery completely plugged by a dense firm clot. The smaller branches were, however, pervious and bled freely. We had some difficulty with the wound, the edges of which sloughed a little. Ultimately, however, he recovered perfectly. In this case the arteries were not calcified, but very greatly enlarged and thickened. In the opposite limb the brachial artery was visible through the skin as a sinuous pulsating cord down the upper arm and in front of the elbow.

Encouraged by the result in this case, and about the same time, I amputated above the knee for an old gentleman living in Camberwell, but unsuccessfully. He sank within a week with gangrene of the stump. In this instance the operation was done under most unfavourable circumstances and as a last chance. The patient was stout, in bad health, and the gangrene extensive and advancing. It was of the moist form, and the conditions were so urgent that I did the operation within a day or two of my first seeing the patient.

My next case was one of an ordinary form of senile gangrene of the right foot in a thin old man, æt. 72, in the London Hospital.

He suffered also from prostatic retention of urine. Amputation above the knee was followed by good results so far as relief of pain and almost complete healing of the stump were concerned. The patient lived about five months afterwards, but never left his bed. He died ultimately from exhaustion by various causes, and with a gangrenous patch on the other foot. His arteries were very extensively calcareous.

In a fifth case, I amputated for spreading senile gangrene of the left foot in an old woman, aged 75. She was suffering severely from the pain and irritation; was almost constantly delirious, and certainly not likely to live more than a week when the operation was done. She was, however, fortunately very thin. After the amputation she did well without an interruption. Her stump healed without a drop of pus, and became perfectly sound. Her circulation was so feeble that we had great difficulty in preventing gangrene in the toes of the other foot, and had to keep it wrapped constantly in cotton wool. She returned home about a month after the amputation in tolerable health, but with the other foot still in a condition to cause great anxiety. I had advised her to have that limb removed also, as the best means of making the conclusion of her life comfortable and enabling her to leave her bed. It seemed certain that the toes would at once pass into gangrene if she were to sit up. My advice on this point was, however, declined by her friends. The removal of both lower extremities seemed to them a mutilation too formidable to be considered, and they took her out of the hospital.

The last case which I shall mention is one of unusual interest. The gangrene was senile in the sense that it was caused by calcareous arteries, but the patient was not advanced in years. He was much out of health from other causes, and the gangrenous process was preceded and attended by inflammatory action.

I attended Mr. H— in consultation with Mr. Linton Brunton, of Limehouse, whose relative he was. Mr. H— was only forty-eight, but he had worked hard and lived freely, and although not showing other signs of old age his arterial system had become most extensively calcareous. His pulse at the wrist was most feeble, so much so that frequently for days together it was scarcely perceptible. He was liable to become blue in the face on exposure to cold air, and suffered much from cold extremities. He had once at a railway station fallen unconscious, probably from cardiac syncope, and once or twice after mental excitement had been so prostrate that he was only kept alive by the freest use of brandy. Such being the state of his circulation, he was exposed one snowy day in 1880 to cold, and came home with his feet much chilled. Bullæ formed on his left foot, and were followed by gangrenous patches of the skin and much swelling. The bones seemed to suffer more extensively than the skin, and abscesses subsequently formed about them. This might perhaps be explained to some extent by the fact that there was always a certain quantity of sugar in his urine. During the two months that I watched the case, Mr. Brunton and I removed piecemeal many of the digital phalanges. Gradually the disease spread up the foot; abscesses with gangrenous patches of skin formed, and the ankle-joint became affected.

We obtained the advantage of a consultation with Dr. Mahomed on December 24th, 1880, concerning the state of the heart, etc. Dr. Mahomed used the sphygmograph and gave me a detailed written report. It was to the effect that there was no proof of arterial disease in the upper extremities, nor any of valvular disease of the heart; the latter organ was believed to be feeble, possibly dilated, and probably fatty. The pulse was described as "extremely small, non-persistent, readily compressed, short; artery not thickened." The urine was found to contain a large amount of sugar, and also a considerable quantity of albumen (about one sixteenth). It had a specific gravity of 1033. Mr. Linton Brunton had often before demonstrated the presence of sugar, but we had never found albumen, nor was it found subsequently.

Mr. H— had been most of this time in a condition of very urgent illness; often vomiting everything for days together, and not in the least expected to live. Towards the end of February his general condition was a little better than it had been, but as the foot got worse and worse we decided to amputate at all hazards. This was done above the knee on February 27th, 1881. The elastic bandage and strap were used, and Lister's precautions fully carried out. When adapting the flaps the femoral artery was observed to project between them like a small bone, and I was obliged to forcibly bend it back. It had been cut in the flaps much longer than the bone, and I feared that we should have trouble with it during the healing of the stump. None such, however, occurred; both the bone and it proved to be sufficiently covered, and the healing was immediate and without suppuration. It is now about three years since this amputation was performed, and the patient has remained well, wears an artificial limb, and gets about almost as well as formerly. His diabetes has for some time disappeared. He has lived more carefully, but has been much troubled by ulcerations on the other foot.

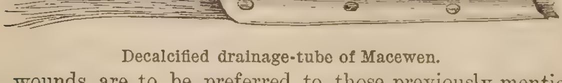
These cases do not include quite the whole of my experience respecting these operations. In a case under one of my colleagues in which, about six months ago, I had pleasure in giving my vote in favour of amputation, the result was, I believe, most satisfactory, and my friends have informed me of several others.

The facts adduced, I think, justify the belief that amputation through the lower third of the thigh is not a very dangerous operation even in advanced years and with most extensive calcareous degeneration of the arteries. I have never in a single instance had any trouble with secondary hemorrhage, nor encountered any difficulty in securing the vessels at the time of operation. I have always tied with stout catgut or carbolised silk, and have taken up the tissues surrounding the artery freely. The smaller vessels have been twisted, but I have never trusted to this for the main trunk. If it be admitted that the operation is not in itself dangerous, then I think there can be no hesitation in believing that it offers a most acceptable alternative to the miseries of death from slowly advancing gangrene.—*Medico-Chirurgical Transactions,* 1884, *p.* 91.

46.—DRAINAGE AND DRESSING OF AMPUTATION STUMPS.

By JAMES WHITSON, M.D., F.F.P.S.G., F.R.M.S., Assistant-Surgeon to the Glasgow Royal Infirmary.

Drainage.—Drainage is now recognised as an important factor in the treatment of amputations, for if discharge does not obtain egress unpleasant consequences speedily manifest themselves and retard the progress of reparative action. A good deal of effusion succeeds the removal of a limb, and many surgeons obviate its accumulation by leaving the sides of the flaps partially open for the first forty-eight or seventy-two hours. This method certainly effects its purpose, but it should be borne in mind that the edges of wounds have begun to granulate by the end of that time, and it is therefore clear that their roughened surfaces cannot afterwards be approximated with the precision of freshly cut tissue, nor can the parts accommodate themselves so readily to each other after being kept apart for some days. The scar which follows such a mode of procedure is larger than it otherwise would be, and in addition to being unsightly may prove a source of future inconvenience. The first step towards improvement in this direction was the introduction by Chassaignac of india-rubber tubes of various sizes, which are perforated at regular intervals in order to increase their action. If favourably placed these agents make excellent drains, but owing to the pliability of caoutchouc their channel is liable to become deflected or compressed, and the conducting power which would otherwise be possessed by them may thus come to be interfered with. The decalcified chicken bone drainage tubes of Macewen (see Fig.) fulfil the design of their inventor admirably, and in fresh wounds are to be preferred to those previously mentioned. They are threaded with horsehair, which maintains their calibre,



Decalcified drainage-tube of Macewen.

and at the same time prevents occlusion of their channels by blood-clot. If care be taken to leave the ends of sufficient length, a syphon action is induced, the result of which is that the discharge is led into the dressings and the stump kept dry and comfortable. It is usual to withdraw the hair at the expiration of forty-eight hours, because the sero-sanguineous exudation following an amputation has in the majority of aseptic cases then ceased. The tubes in question are easily prepared, and. when placed in contact with tissues whose vitality has not been lowered, are, as a rule, ultimately absorbed. Hair has, however, one disadvantage. It will not drain pus, and, when suppuration is going on, the india-rubber tubes of Chassaignac should be used.

Catgut is inferior to hair as a conductor of fluid, owing to its lacking the straightness and hardness of capillary fibre. Its flexibility also renders it prone to displacement. Threads of gut have the additional drawback of being somewhat irregular in their cylinder, and do not on this account lie so well together as the rounded filaments of hair. Fewer can thus be inserted in a given space, and their united action must therefore be less, for numerical superiority—other things being on a par—increases power in a definite ratio as we ascend the scale.

We have now to consider the question of allocation, and decide whether it will be best to confine the drainage tubes to any one position or distribute them regularly throughout the stump. In agriculture it has long been recognised as an axiom that if land is to be brought to the highest state of perfection it must be deprived of superfluous moisture. To effect this the skilful farmer does not construct one or two large drains in the central or lateral portions of his fields, but cuts instead a regular series of minor channels, taking care to utilise any slope in the ground and to see to the subsequent disposition of what has been abstracted from the soil. The same principles hold good in surgery, and with a view to the better solution of this problem we may now ask ourselves the question, What is the area of discharge? The major proportion of the exudation immediately succeeding an amputation takes its origin in the muscular tissues enveloping a limb, because there are many small vessels divided here which are too minute to tie, and whose mouths in consequence will remain relaxed for some time. As blood, in common with other liquid bodies, obeys the ordinary laws of gravity by seeking its lowest level, we may thus safely proceed upon the assumption that several dependent exits will most favour its escape.

The practice of introducing india-rubber tubes at either corner of the flaps may aid matters provided the position occupied by them is favourable to drainage, but it should be remembered that if the posterior flap is of any length the bulk of the discharge wil be compelled to travel some distance before it can pass out. Should the under flap remain unsupported and thus fall away from the upper, the proximal ends of the tubes are certain to be tilted downwards, owing to the fact that their distal extremities, from being generally fastened by stitches, are necessarily pointing upwards, and are almost useless for conducting purposes from the fact that fluid material cannot ascend. Hence it follows, if the edges of the flaps have been accurately sutured, that the bulk of the discharge is retained within, and the overflow alone is able to well away. The same thing is also liable to happen when a tube is passed from one side to the other. An excellent method of drainage, which effectually removes the difficulties referred to, is that of piercing the posterior flap at different points, and inserting drainage-tubes into the openings so made. Discharge thus finds a ready exit, and its early liberation materially contributes towards the maintaining of the wounded surfaces in a condition favourable to the advance of repair.

Dressing of the Stump.—After arranging the drainage-tubes and fastening the sutures, we require to dress the stump. Formerly strips of lint soaked in camphorated or other oil, and retained in position by means of calico bandages, were almost universally employed for this purpose. Lint when soaked with blood becomes hard, and a want of resiliency in a dressing soon proves irksome to the patient, while its frequent removal disturbs the process of healing, and is inconvenient otherwise. Neither does it permit of sanguineous or purulent material passing readily through it, and its capacity in this direction will be still further lessened when impregnated with an oleaginous compound. Should the amount of discharge happen to be profuse, much of it on this account must be pent-up within the wound—a state of matters which ought to be carefully guarded against. After an extended trial of different materials Mr. Lister ultimately (1871) adopted gauze as the most suitable dressing for wounded surfaces, and the fact that this article continues to be so employed is the best evidence in favour of its superiority that could be adduced. Its numerous layers afford complete protection from external influences, porosity of fibre confers great absorbent power, and perfect asepticity permits of its being retained in position for some time—essential requisites for the progress of healthy action. Carbolised tow is a valuable adjunct to gauze. After the first few strips of the latter have been applied, several well-teased rolls of the former when investing the limb will be found to yield a firm as well as elastic support and assist in taking up discharge. It is usual, when following the antiseptic method of treatment, to dress an amputation forty-eight hours after its performance, provided there is no previous evidence of stain. If decalcified drainage-tubes have been called into requisition, the hair with which these agents have been threaded may then be withdrawn. It occasionally happens that at the expiration of this period a quantity of clotted blood has accumulated within the stump. In such cases a stitch or two should be cut and the mass cleared away. If the cavity be washed out, it is advisable to do so gently, and with a tepid solution of carbolic acid (1 to 40). Rough measures do harm, and fluid injected forcibly into a recent wound stimulates the tissues to increased secretion, and thus continues, rather than mitigates, the evil. If sufficient attention has been paid to details, the second dressing should not require removal for a week or even longer. In doing so an assistant should be instructed to pass both his hands under the limb and press the flaps forward, so that no strain may be placed upon them. A splint of Gooch padded with tow and with the corners rounded off may be advantageously applied to the limb; it renders the parts less susceptible to movement, and thus promotes the general weal. If the discharge happens to be profuse, stains speedily make themselves apparent at the lowest end of the dressings. Should it be inconvenient to remove this when these are first observed, a few folds of gauze may be secured round the parts till the whole can be replaced. Under favourable circumstances cicatrisation may be expected in the course of four or five weeks.—*Lancet, Dec.* 27, 1884, *p.* 1137.

47.—ON THE ESCAPE OF CEREBRO-SPINAL FLUID IN FRACTURES OF THE CRANIAL VAULT.

By R. Clement Lucas, B.S., Assistant-Surgeon, Guy's Hospital.

In the Guy's Hospital Reports for 1876, 1878, and 1881, will be found the records of two very interesting and exceptional cases of simple fractures of the vault of the skull, which were followed by tumours of cerebro-spinal fluid beneath the scalp. From the study of these and other cases I drew two conclusions, viz.:—

1. That cases of simple fracture of the skull followed by collections of cerebro-spinal fluid beneath the scalp are peculiar to children.

2. That when cerebro-spinal fluid escapes through the vault (whether the fracture be simple or compound) the injury has extended to the ventricular cavity.

The following case is one which serves to support the correctness of the second of these two inductions; and had the symptoms been less urgent, so that it might have been justifiable to postpone operating, it is highly probable that a tumour of cerebro-spinal fluid would have formed beneath the scalp as in those cases already reported. I make this statement because all the conditions were present which in other instances have determined this rare complication of fracture of the vault. The child had fallen from the landing of a staircase and dropped a distance of about twelve feet on its head. It was but a year old, an age at which the thinness of the bones and the yielding nature of the skull allow of extensive damage to the brain, without any laceration of the scalp. Further, the post-mortem examination revealed that laceration of the brain substance had reached the ventricular cavity, whilst rupture of the dura mater was noticed at the time of the operation. The escape of cerebro-spinal fluid from the wound on the fourteenth day corresponds closely with the time that has been noticed in other cases, and probably indicates that subsequent to the laceration a softening process supervenes, together with an increased secretion of cerebro-spinal fluid from inflammation, so that pressure from within and yielding of the brain wall together contribute to the escape of fluid from the ventricles.

Case.—Simple depressed fracture of the skull. Trephining followed by relief of symptoms. Escape of cerebro-spinal fluid noticed on the fourteenth day. Erysipelas on the twenty-first day, followed by meningitis and death.—T. C. S. H—, æt. one year, was admitted June 18th, 1881. The parents were somewhat delicate, both having suffered from enlarged glands and abscesses in the neck. The child was born with a congenital hernia, and had suffered from bronchitis.

At five p.m. on June 18th the child fell down the staircase, a distance of twelve feet, and pitched upon its head. It was not unconscious when picked up, but soon afterwards vomited. The child was admitted about an hour afterwards. Before admission it had a clonic convulsion of the right side, affecting the right arm, leg, and right side of the face, lasting about half-an-hour. About an hour after admission it had another clonic spasm of the right side, which also lasted about half-an-hour.

There was a swelling extending over the left side of the head, and above this, two inches from the sagittal suture, was a distinct depression running longitudinally through the frontal and parietal bones. The child was very white, and was noticed to be paralysed on the right side. The pupils were both dilated, the left more than the right. Mr. Lucas was called to see the case five hours after its admission, and determined to trephine at once. The fracture extended from the frontal bone some distance backwards through the parietal, but how far was not ascertained. Chloroform having been administered, a crucial incision was made over the seat of fracture, and the periosteum and scalp were raised together. The bone being removed, the dura mater was seen to be torn through in the line of the fracture, and the brain substance was exposed. A thin blood-clot was seen situated on the dura mater, and was not removed. The operation was performed under carbolic spray, and carbolised gauze dressings were employed. An ice bag was afterwards applied to the head.

June 19th. It was noticed that all paralysis had disappeared. 20th. Temperature in the morning 100° The child is somewhat fretful, but takes the breast well, and slept better last night. No signs of paralysis, arms and legs moving freely; bowels have not acted; pupils normal. Head dressed under spray. 21st. Temp. 98·4°. Still fretful, but takes the breast well. Pupils normal; bowels have not acted. Ordered pulv. rhei co. gr. iv, hydrarg. cum cretâ gr. j, statim. 22nd. Seems much better to-day. He is hungry, and the mother says the breast does not satisfy him. Tongue clean and moist; lips not dry; bowels have acted twice. The wound has been dressed; temp. 98°. 23rd. The child has been dressed to-day, and the four wire sutures removed. The wound appeared to be united throughout by primary union; temp. 97·6°. 24th. Continues well; bowels have acted to-day. Wound dressed; temp. 98°. 27th. Temperature has continued normal or a little below; ice bag discontinued. 28th. The child was allowed bread and milk. 29th. The mother does not notice any difference in the condition of the child, and thinks it as well as before the accident. July 2nd. When dressed it was noticed that, if the child cried or moved a little, clear fluid trickled out of a minute aperture where the incisions cross. Antiseptics have been left off, and dry lint is now applied. 6th. The registrar made the following note:—There is a small sinus from which, when the child cries, a drop of clear fluid exudes. It resembles cerebro-spinal fluid. The dressings are not soaked when removed. 9th. Continued quite well until to-day, and it had been arranged that it should leave the hospital to-morrow, as the mother wished to go home. At midday it became restless and afterwards drowsy, in which condition it continued during the remainder of the day. At the same time a pink blush was noticed over the forehead and behind the ear, and in the evening the scalp was swollen. At 9.30 p.m. the wound was dressed, and a little pus oozed out. 10th. Became unconscious this morning. Temperature ran up to 102° in the morning, and in the evening reached 103·4°. Redness this morning has nearly disappeared, and the swelling also, except behind the ear. Is very pale, but continues to take the breast; it cries out occasionally. 11th. The child lies unconscious, with the eyes fixed and glassy. Pupils contracted, with slight ptosis on the right side. Skin feels cold to touch, but in the axilla the thermometer records 101·4°. The left corner of the mouth and left sterno-mastoid work convulsively. Left arm swings in a circle, and tears at the wound. Respiration laboured, 48 per minute. The wound and surrounding skin have sunk very perceptibly. Pulsation can be seen in the depression It died in the course of the morning.

A *post-mortem examination* was made on the same day by Dr. Goodhart. There was an extensive fracture running from the trephine wound on the left side of the skull forward well into the frontal bone, and a rectangular continuation behind running upwards towards the sagittal suture. There was much blood extravasation between the skull and the scalp. There was a little purulent lymph lining the side of the skull and the middle fossa, but ceasing above before the fracture was reached, and there was about half an ounce of green pus in the middle fossa on this side. As this could not be traced to the trephine hole or fracture, Dr. Goodhart thought it might have come there by gravitation, and not by direct extension of the inflammation. There was no fracture of the base, and no pus in the tympanum. The other viscera were healthy. The crucial wound for trephining had healed except a small central aperture, which had discharged clear fluid, thought to be cerebro-spinal. The calvaria and brain were removed together, and placed in spirit to harden before being subjected to further examination. When the hardening had been completed, a section was carefully made transversely through the trephine wound, skull, and brain, and this showed very clearly that the brain had been damaged as far as the lateral ventricle; and, further, that there existed a track along which cerebro-spinal fluid had passed from the ventricle to the surface of the scalp.

Remarks.—The communication of the wound with the ventricular cavity of the brain, which was demonstrated by post-mortem examination, is the chief feature of interest in the case, and the principal reason for its publication. I showed in my last communication that there was no post-mortem evidence that a wound of the visceral layer of the arachnoid was sufficient to account for the escape of cerebro-spinal fluid from the vertex. Such teaching rests only upon conjecture, and is, I believe, erroneous. Were it true, the appearance of cerebro-spinal fluid ought to be much more frequent than it is in cases of compound fracture of the vault. For it is certain that in many instances in which the dura mater and brain are known to have been torn, no escape of clear fluid has occurred. On the other hand, in every case in which an autopsy has taken place, the communication between the wound and the ventricular cavity has been demonstrated. Nor is the fact, that several cases in which this symptom has been noticed recovered, any argument against the probability that the brain has been deeply penetrated. It is astonishing to witness to what an extent the hemispheres may be lacerated without occasioning death or even very urgent symptoms. Children, indeed, whose intellectual faculties have not been developed, as soon as the pressure on the reflex ganglia is relieved, suffer little from the most extensive cerebral lesions, provided meningitis does not ensue.

Of the three cases I have now put on record, all recovered from the immediate effects of the injury, and it was the addition of a second cause which placed a post-mortem examination within my reach in two of the cases. The patient in the other case is still living and well.—*Guy's Hospital Reports*, 1884, *p.* 23.

48.—CATARRH OF THE FRONTAL SINUSES.—ITS SYMPTOMS, AND TREATMENT BY THE TREPHINE.

By ALEXANDER OGSTON, C.M., Professor of Surgery in the University of Aberdeen.

The patients have usually been unable to fix very exactly the onset of the malady, and have merely perceived that from a certain date they began, without well-marked cause, to suffer from uneasiness and pain in the situation of the frontal sinuses. This "headache at the root of the nose" varied in degree, sometimes reaching a considerable intensity, at others again improved, but always more or less perceptible. These were all the subjective signs. Along with them occurred a discharge of pus from the nostrils, not abundant, and not continual, an occasional escape of smallish quantities of yellow creamy pus.

On examining the interior of the nostrils everything was found normal, no congestion was present, and discharge was rarely visible, and, if present, was seen at the anterior part of the roof of the cavity. No swelling or discolouration was perceptible over the situation of the frontal sinuses in the brow, but firm pressure with the fingers elicited tenderness there, which was always found to exist, even when the symptoms had otherwise temporarily abated.

The discomfort which the patients complained of was considerable. The consciousness of continual distress, more annoying from its constant presence than from its intensity, was sufficient to render them miserable, and to unfit them for ordinary duties. They had usually tried many remedies, none of which had benefited them; and when I in my turn had convinced myself that iodide of potassium, Weber's douche of various solutions, such as sea salt, with or without permanganate of potash, alum, zinc sulphate and chloride, and kreasote, were no more potent than those already used, they always gladly embraced the proposal of operative interference.

The symptoms above described can be due to one cause only, viz., *retention*. They are such as we find in empyema of the antrum, as well as in retention elsewhere, where the exit for the discharge is imperfect, and they can hardly be explained by any other morbid mechanism of which we are cognisant. There is no possibility of introducing a probe into the frontal sinuses from below, at least I have always failed in my endeavours to do so, therefore the only expedient is to open the frontal sinuses from the brow, ensure the patency of the opening into the nose, and apply such measures as seem called for to the mucous membrane lining the interior of the sinuses.

A single vertical incision, an inch and a half in length, commencing at the root of the nose and extending upwards over the nasal eminence of the frontal bone in the central line of the brow, was found quite sufficient to give the freest access to the cavities, and the cicatrix was sometimes scarcely detectable. The incision carried down to the bone divides the periosteum; this is pushed back by a subperiosteal elevator until the bone is sufficiently bared over the most prominent part of the glabella for a trephine crown of the size of a sixpenny piece to be applied in the central line. It is applied according to the usual rules, and the saw-line is deepened until the trephine had entered a cavity, which the point of a quill shows to lie at the lower part of the circle, the upper part not yet having completely divided the bone. The trephine is now removed, and the disk of bone extracted, if this be possible, by the trephine elevating forceps, or the "tire fond," assisted by the elevator, which seeks to loosen the disk. If the sinuses be large the disk is readily removed, if small it cannot be so extracted. In this latter case a small chisel, bevelled on one side, is resorted to, and by means of it and the mallet the disk is removed piecemeal until the sinuses are laid bare in the bottom of the wound, occupying usually only its lower half. The bleeding is slight, and not sufficient to obscure the steps of the operation.

The object that now meets the eye is the livid mucous membrane lining the sinuses. It is opened by a scalpel and forceps, if the trephine should not already have effected this, and is found to consist of the granular thickened mucosa containing mucus, pus, or muco-pus. In two cases it was so granular that it might be termed polypoid, being lined with soft gelatinous outgrowths exactly like the common nasal mucous polypi, of the size of split peas or a little less.

The muco-pus being sponged away, the next step is to examine and dilate the orifice leading to the nose. It is easily found by pushing a probe downwards, and if too small may be enlarged by thrusting down a trocar or any stout instrument. A drainage-tube of the size of a crowquill or even larger is guided down so as to emerge at the nostrils, while its upper end is left in the cavity. In the threè cases I have so operated on, however, I have not trusted to drainage alone, but have removed with a Volkmann's sharp spoon or curette the diseased mucous membrane, and have cauterised any parts that remained by swabbing out the sinuses with a strong solution of chloride of zinc. The drain was then laid in, its upper end lying in the sinuses and not emerging on the brow. In the cases so treated the communication between the two sides was so free that one drain served for both sinuses, but if it were otherwise a separate drain might be employed for each. The skin wound is then closed over the sinuses, and unites by first intention; only one case had a small fistula that did not close for some time. There is no retraction of the skin into the sinuses, so as to cause deformity; the brow remains of normal contour, a softness and yielding to pressure alone marking the spot where the operation had taken place. The tube has been removed in a week, and in no case has the result admitted of doubt. The pain has been at once relieved, and has not returned.—*Medical Chronicle, Dec.* 1884, *p.* 235.

49.—ON THE DIRECT TREATMENT OF PSOAS ABSCESS WITH CARIES OF THE SPINE.

By Frederick Treves, F.R.C.S., Surgeon to, and Lecturer on Anatomy at, the London Hospital.

In the present paper I venture to submit to your notice an operation for the more direct relief of spinal caries when associated with abscess and when occurring in a certain segment of the column. I might say at once that the procedure is concerned only with the disease when it involves the lumbar and, with some reservation, the twelfth dorsal vertebræ. It consists simply in cutting down upon the bodies of those vertebræ through an incision made in the loin. By means of this incision the diseased area can be more or less directly exposed, suppurative collections can be opened at their point of origin and evacuated by the shortest possible route, portions of necrosed bone can be removed when such exist, and the diseased district subjected to the same methods of treatment that are commonly applied to the more superficial forms of caries.

[An account of three patients upon whom the operation was performed, and from one of whom a large sequestrum, involving a great part of the body of the first lumbar vertebra, was removed, is given in the paper.]

The details of the operation as it may be performed on the cadaver are as follows. In the description given I have presumed that the surgeon intends to cut down upon the second or third lumbar vertebra. If a higher or a lower vertebra require to be exposed, some slight and obvious modifications as regards position of incision, &c., would have to be introduced. These, however, need no detailed notice. The patient's loin having been exposed, a vertical incision some two and a half inches in length is made through the integuments. The centre of this cut should lie about midway between the crest of the ilium and the last rib, and the cut should be so placed as to correspond to a vertical line parallel with and to the vertebral side of the outer border of the erector spinæ. I find that the average width of the erector spinæ in this situation is, in the adult, from two and three quarters to three inches. The incision, therefore, should be situated about two and a half inches from the lumbar spinous processes. After cutting through the superficial fascia the dense aponeurosis is exposed that covers the posterior surface of the erector spinæ, and which is variously known as the superficial layer of the lumbar fascia, as the aponeurosis of the latissimus dorsi and serratus posticus inferior muscles, and as the inferior part of the vertebral aponeurosis. The part of this layer exposed in the lower half of the incision is wholly tendinous, but from that seen in the upper half of the cut arise some of the fibres of the latissimus dorsi. These fibres are thin, and pass from below obliquely upwards and outwards. The dense aponeurosis with its attached muscular fibres having been divided in the full length of the incision, the erector spinæ is exposed. This muscle is at once recognised by the vertical direction of its fibres. The outer border of the muscle should now be sought for, and the whole mass drawn, by means of retractors, as far as possible towards the middle line of the back. In this way the anterior part of the sheath of the muscle, known as the middle layer of the fascia lumborum, is readily exposed. Neither in front nor behind has the erector spinæ any direct adhesion to its sheath at this part.

The anterior layer of the sheath, as now exposed, is seen to be made up of dense white glistening fibres which are all more or less transverse in direction. Through this sheath the transverse processes of the lumbar vertebræ should be sought for. The longest and most conspicuous process is that belonging to the third vertebra. It is readily felt. The erector muscle having been drawn as far as possible towards the middle line, the anterior layer of its sheath must be divided vertically as near to the transverse processes as convenient. By this incision the quadratus lumborum muscle is exposed. The muscle as here seen is very thin. It is composed of muscular fibres which run from above obliquely downwards and outwards. Between the fibres are tendinous bundles which spring from the tips of the transverse processes. The muscle should be divided close to the extremity of a transverse process, and the incision cautiously enlarged until the muscle is divided to the full extent of the skin wound. It is at this stage that there is danger of wounding the abdominal branches of the lumbar arteries. The inner edge of the quadratus is overlapped by the psoas muscle, so that when the former is divided the latter is exposed. The psoas fibres, as now seen, take about the same direction as the posterior fibres of the quadratus, *i.e.*, run downwards and outwards. The interval between the two muscles is marked by a thin but distinct layer of fascia, known as the anterior lamella of the fascia lumborum. Some of the tendinous fibres of the psoas having been divided close to a transverse process, the finger is introduced beneath the muscle and gently insinuated along the process until the anterior aspect of the bodies of the vertebræ is reached. The incision in the psoas can be enlarged to any extent.

If the patient were stout or very muscular, the length of the skin wound would have to be increased, or a transverse cut might be made into the erector spinæ to allow of its more effectual retraction.

With common care there should be no danger of opening up the subperitoneal connective tissue, much less of wounding the peritoneum. All risk on this score will be avoided by making the incision in the quadratus as near to the transverse processes as possible.

Great care must be taken not to wound the lumbar arteries. The abdominal branches of these vessels run for the most part behind the quadratus lumborum. That, however, from the first vessel runs in front, and not infrequently those from one or two of the lower arteries follow its example. These vessels may be of large size, often as large as the lingual. They may be avoided as well as the trunks from which they arise by keeping close to a transverse process. The main vessel curves around the spine between the transverse processes, and between these processes also the division of the artery occurs. If, therefore, the rule be observed of always reaching the spine along a transverse process, the lumbar arteries and their abdominal branches need be exposed to no risk.

In actual practice, the operation is much simpler than may appear from this description. The patients are usually young and thin—often very thin. If the disease have lasted for any length of time the muscles about the part are found to be atrophied, and if any moderate deformity exist it serves to render the morbid region more easy of access. The moment, moreover, that the quadratus is incised, the psoas is reached, and here will in all probability be found an abscess cavity which will immediately conduct the surgeon's finger to the seat of the disease. As to which loin should be selected—the right or the left—it matters little. The operation can be somewhat more conveniently performed upon the right side, while upon the left it is that the risk of damaging the peritoneum by an accidental slip is reduced to a minimum.—*Medico-Chirurgical Transactions*, 1884, *p.* 115.

50.—ON THE CAUSES AND SYMPTOMS OF ACUTE SUPPURATIVE OSTEOMYELITIS.

By Thomas Jones, B.S., F.R.C.S.Eng., Surgeon to the Manchester Royal Infirmary.

Although osteomyelitis may appear wherever marrow is found, my intention at present is to describe the disease as it affects the medulla of the shaft of a long bone. Acute osteomyelitis must be classed with those inflammatory affections that run a rapid and generally a disastrous course. Hardly any disorder can destroy life more quickly than this disease when it continues to maintain an acute progress.

Causes.—The causes of the disease conveniently fall under two heads—(1) local, (2) general. To the former class belong wounds, contusions, and concussions of bone, also operations implicating osseous tissue. Cold, a possible source of osteomyelitis, is probably local in its action.

Among the general causes may be mentioned those occupations which tend to depress the system while they involve a risk of injury to the bones. Certain cachexiæ (scrofulous, syphilitic) likely to produce an imperfect state of health may act as predisposing causes. In searching for a cause the possibility of the disease originating in some unsuspected general blood infection must be always borne in mind. Acute osteomyelitis has a peculiar partiality for the long bones and the male sex. The occurrence of the disease during youth and early adult life, and the comparative immunity enjoyed by those advancing in years, may be possibly explained by the greater vascularity of the marrow in growing bones, which renders it more liable to become inflamed from slight, and what would be in later life insufficient, causes.

When the long bones are arranged in the order of frequency of attack, the femur occupies the first position, then comes the tibia, and much lower in the list the humerus and the bones of the forearm.

Symptoms.—The symptoms of acute osteomyelitis will differ with the severity and stage of the disease, its situation, and the extent of medullary tissue implicated. In many instances it will be difficult and frequently impossible to determine at the onset whether the periosteum or the medulla is the primary seat of the inflammation. The course which the disease subsequently pursues will in the majority of cases render important aid in deciding this question.

The character of the symptoms will be very materially influenced by the condition of the structures investing the bone—*i.e.*, whether they are entire or have been divided. In the following description it will be assumed that they are intact, and that the bone has not been submitted to any operation.

The principal symptoms are common to this disease and most other inflammatory disorders. They are pain, local heat, redness, swelling, and general fever. In the acute non-traumatic inflammation of the medullary tissues, pain always appears before the other symptoms, and it possesses certain peculiarities that demand our close attention. Besides appearing at the very onset of the disease, it is so excruciating as to compel the patient to seek rest, and, generally, its intensity increases with the development of the inflammation. It is more or less constantly present, is liable to sudden and violent exacerbations and is peculiarly aggravating at nights, and its position corresponds with the situation of the inflamed marrow. The pain of acute osteomyelitis has to be distinguished from that produced by diffuse cellulitis and by acute periosteal abscess, the two conditions for which osteomyelitis is most easily mistaken. In the latter diseases the pain is less severe and undergoes a marked diminution and often completely subsides when the soft parts are incised, while in osteomyelitis an incision affords little or no relief. The result, therefore, of an exploratory incision will lend valuable assistance in the formation of a diagnosis. Persistence, or only temporary abatement of pain following an incision, will give us good grounds for suspecting a more deeply-placed inflammatory disorder. After the pain has existed for a variable time, generally a few days, the limb swells without at first any redness of the integument. The skin becomes tense, puffy, and often pits under pressure, and through it the subcutaneous veins are frequently visible. The swollen limb is also hotter to the touch than the sound one. A more detailed examination of the swelling will often aid us in determining its cause. Frequently a firm distinct boundary limits it towards the trunk, and proceeds upwards as the suppurative inflammation extends, and the upper margin of the swelling on the exterior of the limb nearly coincides with the position to which the inflammation in the medullary tissue has reached in its upward course. If this peculiarity should prove to be correct, and it was very well marked in the case which I have presently to relate, the character of the swelling, with the time of its appearance in relation to the pain, will assist us not only to determine the existence of an inflammation deeply situated, but also to indicate in a fairly accurate manner the extent to which it has progressed.

Another interesting point, and one which might aid us considerably in deciding whether or not the inflammation has attacked the interior of a bone, is the presence or absence of oil globules in the pus. Roser maintains that in osteomyelitis, in consequence of the high arterial pressure within the medullary canal, fluid fat is forced through the Haversian canals, and that globules of fat can be detected in the matter which escapes.

Febrile disturbance, usually of a violent character, attends osteomyelitis when the disease is thoroughly established. The fever, often ushered in by a rigor, is generally associated with decided evidence of constitutional debility, and if pyæmia should supervene it will develop the characters peculiar to that complication. Occasionally the febrile disorder takes precedence of the other phenomena; in the majority of cases, however, a sudden attack of pain is the first symptom. When the disease advances rapidly the fever may be attended with considerable disturbance of the nervous system and occasionally with delirium.

The diagnosis of osteomyelitis will rest on a careful analysis of the symptoms which have been mentioned, special inquiry being made into the order of their sequence and the relation in point of time between the onset of the pain and the appearance of the swelling. For example, if we discover that a pain in the thigh of sufficient severity to necessitate rest is followed after the lapse of several days by a swelling possessing the peculiarities noted above, we should have a strong reason for concluding that the inflam mation involved the cancellous interior rather than the periosteum of the femur. This conclusion would be very much strengthened if an exploratory incision afforded only very slight and temporary relief.

Terminations.—Acute osteomyelitis may terminate either in recovery, death of the bone affected, or of the patient, or it may pass into a sub-acute or chronic stage, from which a return to the healthy condition may eventually take place. In some instances, although the symptoms have been tolerably acute, the disease has subsided and the patient completely recovered. This is more likely to occur when an early recognition of the disease leads to the prompt adoption of proper treatment. Some years ago I witnessed this happy termination in a girl about sixteen years of age, who was under the care of Mr. Heath. The disease had arisen spontaneously, and the symptoms were such as clearly indicated an osteomyelitis of the femur. The acute wearing pain had existed for four days before the swelling made its appearanee. An incision on the outer side of the thigh failed to detect any suppuration, but it showed that the periosteum was raised from the surface of the bone. Afterwards the formation of several subcutaneous abscesses testified to a general blood infection, yet the patient made a good recovery after some small sequestra of the femur had been removed. Again, the inflammatory process may be checked after it has made considerable progress: then the osteomyelitis would be probably associated with periostitis, which would result in the formation of new osseous tissue between the periosteum and the external surface of the bone.

Unfortunately, acute osteomyelitis more frequently ends in suppuration, which may involve a portion of, or the entire, medullary cavity, and places the patient's limb and his life in serious jeopardy, for the pus rapidly putrefies, and septicæmia or pyæmia may be thereby induced. A close connection undoubtedly exists between suppurative osteomyelitis and pyæmia; still there is much difference of opinion in regard to the relationship. For while some think that the suppurative inflammation of the medullary tissue is a symptom of the general blood infection, others consider that the osteomyelitis is the primary disease and that the systemic contamination arises from it. In a considerable proportion of cases the latter appears to be the more probable explanation. The reason why pyæmia so frequently complicates and arises from suppurative osteomyelitis, is to be found in the great absorptive power of the marrow and in the readiness with which septic changes occur in the pus of a marrow abscess.

Suppurative osteomyelitis frequently involves the periosteum by extension of the inflammation from the interior of the bone along the cellular tissue in the Haversian canals. In consequence of the intensity and character of the inflammation, purulent fluid is formed beneath the periosteum, and when the pus collection is opened bare bone can be readily detected. When the subperiosteal suppuration is secondary to osteomyelitis the surface of the dead bone will be often irregular in consequence of some osseous particles adhering to the periosteum at the time of its detachment. On the contrary, should the death of a bone be produced by suppurative inflammation commencing in the periosteum, then the surface of the dead portion will be tolerably even in consequence of the bone being abruptly deprived of its periosteal covering. This point of distinction fails, and the exterior of the bone will be more or less smooth in those cases where the necrosis results from acute inflammation attacking the medullary tissue and periosteum almost simultaneously.

Other consequences might arise from inflammation within the medullary canal, such as separation of the epiphysis and destruction of a neighbouring joint (pyarthrosis). When the disease occurs in early life, the cartilage between the diaphysis and epiphysis appears to offer a complete hindrance to the direct upward extension of the inflammation. This control is lost in adult life. It is not usual for osteomyelitis of the femur to destroy the knee joint. The disease usually travels upwards, and affects the upper of the two joints with which the bone is connected. I saw a remarkable exception to this rule in a lad who was under my care at the Infirmary last year. Destruction of the knee joint followed suppurative inflammation in the lower portion of the diaphysis of the femur. The epiphyseal cartilage was intact, and the inflammation had reached the knee by travelling along the fibrosynovial structures.—*Medical Chronicle, Nov.* 1884, *p.* 121.

51.—DISLOCATION OF THE CLAVICLE BACKWARDS AND INWARDS, AT ITS ACROMIAL END.

By A. Maccregor, M.B., C.M., Assistant Medical Officer to the Aberdeen Hospital for Children.

On the forenoon of the 13th December, 1882, H. M., aged 50, fell upon the posterior aspect of his right shoulder from a height of about ten feet. On assuming the erect posture, he attempted to raise the arm, and on doing so he "felt something go out of joint."

I saw him on the evening of the same day, and the symptoms then were great pain about the shoulder, very slight bruising, the shoulder not so prominent as and more rounded than on the other side. The patient could move the arm from the shoulder-joint in every direction to a very considerable extent and with little or no pain. There was no fracture of the clavicle, and the acromion process was entire, but the outer end of the clavicle was felt to lie more upwards and backwards, more behind the acromion than usual.

I flexed the forearm, seizing the wrist with my right hand and the elbow with my left; pressing upwards with the left hand, I rotated the arm outwards, and with a grating sound the bone slipped into its place. While I held the arm in this position the dislocation remained reduced and there was no pain; but when the limb was left to resume its original position, the bone immediately slipped back with a jerk.

Treatment.—Reducing the dislocation by flexing the forearm, abducting the arm and rotating outwards while I pressed upwards from the elbow, I fixed the limb in this awkward and uncomfortable position by means of plaster of Paris. A firm pad was placed on the top of the shoulder, and another filled the axilla. These were first fixed by carrying the plaster of Paris bandage round the joint, then the bandages were carried round the chest, shoulder, and arm by a modified figure of eight turns, and ultimately the forearm was fixed in its flexed position in the same manner, leaving the elbow uncovered behind. The chest, shoulder, and upper limb were thus enclosed in a solid case of plaster, which was removed at the end of four and a half weeks, when the joint was found to be quite strong, the bones being in perfect position. In ten days after removal of the plaster, the man was able to resume work as a common labourer.

Remarks.—The injury is unique, and I believe it is the first time that plaster of Paris has been used in injuries of this nature.

The case was at first puzzling, but the diagnosis made and the dislocation reduced, how to prevent the return of the displacement was still more puzzling.

Plaster of Paris suggested itself, and the result was very satisfactory, indeed perfect.—*Medical Times and Gazette, Jan.* 3, 1885, *p.* 8.

52.—A DESCRIPTION OF COLLES'S FRACTURE.

By R. Clement Lucas, B.S., Assistant-Surgeon to Guy's Hospital.

Colles's fracture is a fracture of the carpal end of the radius, usually situated from a quarter to one inch above its articular surface, and caused by a fall on the outstretched hand. The direction of the fracture is generally either transverse or obliquely directed from below backwards and upwards, and from within outwards and upwards. Not rarely the lower fragment is comminuted, and in very exceptional cases the fracture may be oblique from behind forwards and upwards. Accompanying this fracture there is usually either a fracture of the styloid process of the ulna or a tear of the internal lateral ligament of the wrist-joint, and in addition, frequently a rupture of the triangular fibro-cartilage, and such damage to the lower radio-ulnar ligaments as to allow the end of the ulna to be moved more freely than is normal.

The injury gives rise to three prominences:—1. A dorsal elevation most prominent on the radial side, due to the backward displacement of the articular end of the lower fragment together with the carpus and base of the metacarpus. 2. An anterior rounded prominence extending from the edge of the annular ligament upwards for about three inches, caused by the fractured ends (of which the upper is usually somewhat anterior) pressing forward the tendons, together with blood effusion among, and serous effusion into, their sheaths. 3. A prominence on the inner side due to the projection of the lower extremity of the ulna.

There is a depression on the posterior and outer aspect of the forearm, commencing abruptly above the dorsal prominence and fading away on the radial border, due to the displacement of the fractured ends forwards and inwards. Owing to the depression of the radial border of the forearm and the prominence of the lower end of the ulna, the hand presents the appearance of abduction. The movements of pronation and supination are lost. Pain is felt at the seat of fracture and on the inner side of the wrist and hand. Pain in the latter situation is increased by pressure below or on the projecting end of the ulna, and is due to stretching of the dorsal branch of the ulnar nerve.

Examined in the usual way, that is, by attempting to move one fragment on the face of the other, crepitus is rarely obtained. The absence of crepitus is to be explained in two ways:—1. The fracture may be impacted. 2. The muscles acting through the posterior annular ligament may so fix the posterior edges of the fracture that only a slight hinge-like movement can be obtained, which is insufficient to produce crepitus.

On grasping the hand of the patient and making free extension the deformity may be made to disappear, and if at the same time pressure be put on the radius at the seat of fracture a sense of yielding and sometimes crepitus will be felt. On releasing the hand the deformity will recur.

The chief displacement is of the lower fragment, which becomes rotated on a transverse axis, so that its articular surface, instead of looking downwards and slightly forwards is directed downwards and backwards; and to a less extent on an antero-posterior axis, so that the articular surface is inclined somewhat outwards instead of inwards. The fractured ends are directed forwards and inwards, the upper fragment being usually somewhat anterior to the lower.

The radius is shortened as a whole, and the anterior surface becomes longer than the posterior. The hand follows the shortened radius and is displaced outwards. When the fracture is caused by falls from a height, the lower fragment is often comminuted. In this case the most regular fragment is one cut off by a fissure commencing in the ulnar facet, and either breaking out on the dorsum in the groove for the common extensor, or reaching to that of the radial extensors.

One cannot fail to be struck with a certain analogy between this fracture and Pott's fracture at the ankle. In both there is fracture with partial dislocation. In the lower extremity the fibula is fractured, the foot displaced outwards, and the inner malleolus fractured, or the internal lateral ligament ruptured. In Colles's fracture the radius is fractured, the hand displaced outwards, and the ulnar styloid fractured or its ligaments torn.—*Guy's Hospital Reports*, 1884, *p.*387.

53.—ON THE TREATMENT OF DUPUYTREN'S CONTRACTION OF THE FINGERS.

By James Hardie, M.D.Edin., F.R.C.S.Eng., Surgeon to the Manchester Royal Infirmary.

By many surgeons the treatment of Dupuytren's contraction of the fingers is looked upon as highly unsatisfactory, and there is a pretty widespread feeling in the profession generally that it is an affection well nigh incurable. Till recently, I myself have not been sanguine of being able to accomplish much in its treatment, but having, during the present year, operated on several cases according to the method of Goyrand, I am satisfied that the defective results which have so generally been obtained have been due, not so much to any peculiarity in the affection itself, as to erroneous methods of operating. Dupuytren operated by making transverse incisions through skin and fascia at the most resistant points, a method, undoubtedly, by which the fingers may at once be brought down to a perfectly straight position, if only the incisions be sufficiently numerous and extensive. This result, however, can only be accomplished by the creation of lozenge-shaped gaps in the skin, of a size corresponding to the length of the incisions; and as these gaps have to close subsequently by the process of granulation, the ultimate result of such a method must necessarily be a return of the deformity, more or less pronounced, when the natural shrinkage of the granulation tissue has been completed.

Subcutaneous division of the contracted bands of fascia would, at first sight, appear to be a very promising method of treating this affection; and by its means some surgeons, as Mr. W. Adams, have undoubtedly obtained highly gratifying results. This much I am quite prepared to admit. Yet, for all that, I cannot regard the subcutaneous operation as adapted to the treatment of this affection. I cannot regard the tenotome as the means to the end we have in view, nor expect that, by practice and dexterity in its use, we may generally achieve a successful result. The conditions met with in a case of Dupuytren's finger contraction are not so simple as in those cases in which tenotomy is usually so serviceable, as, for example, in talipes, whether congenital or acquired. If it were simply a case of contraction of the longitudinal processes of the palmar fascia, it would present no difficulty, but would be a typical case for the tenotome. Besides this, however, it is a circumstance of vast importance that the whole of the fibrous tissue attached to the principal plane of fascia is involved in the morbid condition. More especially is it the case that the minute processes which connect the skin with the fascia are involved, and that these two structures are thus abnormally bound together. The intimate manner in which the skin is normally attached to the palmar fascia is described in all anatomical works, and the pathological exaggeration of this, as met with in the affection under consideration, has been fully recognised by all writers on the subject. The importance of this pathological condition of the skin as an obstacle to treatment by subcutaneous operation has, however, been strangely overlooked by those who advocate this method. This union between skin and fascia is often so intimate that the two structures seem to be almost fused together in certain places. This occurs chiefly at the transverse cutaneous folds, and I have observed in some cases that at these points there had taken place perfectly evident absorption of the skin, together with its underlying cellular tissue and fat, an effect apparently produced by the unyielding pressure of the cord-like process of fascia with which they had become incorporated. In such a case one may be surprised to find how immediately the point of the knife enters this cord when, perhaps, one only intended to expose it.

I hold, therefore, that good results in the treatment of this deformity by the above methods cannot reasonably be hoped for, and that in moderately severe cases a little amelioration is the utmost that can be gained.

The method of Goyrand, published in 1834, three years after Dupuytren's case, seems much better to fulfil the indications of a well-devised operation. Those indications are, accessibility to the contracted tissues, and healing of the wound with a minimum amount of inflammatory exudation. Perhaps in the days of Goyrand the latter indication was not well fulfilled; but now, as I hope to show, with recent improvements in dressing, there is no difficulty in obtaining complete primary union of the wound. This operation consists, broadly, in making a longitudinal incision over the tense digital prolongations of the fascia, separating the skin from them, and cutting across the isolated cords. The lips of the incision are then brought together, and the fingers fixed in the extended position. In February last a case came under my care in which the attachment of the skin to the fascia was so very intimate and extensive that I was forced to adopt some method of treatment with a special view to its liberation. I unwittingly followed in the footsteps of Goyrand, and was so well satisfied with the result that I have performed the same operation in three other cases since—

six hands in all. The only difference between my own practice and that of Goyrand, so far as I understand, is that I believe I attach more importance to the complete liberation of the skin than he appears to have done. Before narrating these cases, I shall describe the operation which the outcome of my experience leads me to recommend.

An Esmarch's tourniquet having been applied, an incision is begun half an inch above the principal transverse fold of the palm, immediately over the tense bridle of fascia proceeding to the finger mainly involved. This is carried along the bridle to a little beyond the base of the last phalanx which is affected. The lips of the incision having been opened up, the knife is then carried close to the bridle along its whole extent, so as to separate from it the adjacent skin, cellular tissue, and fat, first on one side, and then on the other. In doing this it is necessary to go some depth near the upper end of the incision, so as to divide the little bands which attach the web of the finger to the processes of fascia inserted into the sides of the first phalanx. This dissection having been completed, the tense bridle and fascia, now almost isolated, is cut across at the upper end of the incision. This immediately permits of an almost complete extension of the first phalanx. Further transverse incisions are then made opposite the middle of the first and second phalanges, as the case may require. The knife is then applied to any portion of the fascia which appears to prevent complete extension of the fingers. Some portions may then appear to be so much isolated, or may project so much, that they may be cut out entirely. The other fingers of the same hand which are affected are then, in their turn, similarly treated. Complete capability of immediate extension is to be secured. The tourniquet is then removed, but although the bleeding will be very smart, it is not likely that any vessels will be seen which can be secured. I then lay a catgut or horsehair drain along the extent of the wound, and bring the edges of the latter accurately together with silver wire. A large pad of antiseptic dressing is applied, and the fingers bandaged to a straight splint. I regret to have to use a drain, but the bleeding is so free that I think it a desirable precaution. It should be removed next day, and the dressing reapplied so as to exert some pressure on the part. Should nothing untoward occur it should be left undisturbed for a week, when it is to be expected that sound union will have taken place. The stitches are removed, and subsequent treatment will consist in manipulation of the fingers and the use of the splint for two or three weeks longer.

It has been objected to this and to other "open-wound" operations that they are unnecessarily severe, and that they may be followed by serious consequences. Mr. Adams on this point remarks: "All operations, by open-wound, for these cases should be condemned as unnecessarily severe—involving a long and tedious reparative process, with the risk of suppurative inflammation, and also a liability to failure, in which event the condition of the patient would be worse than before the operation, contraction from cicatrix being one of the most difficult conditions to relieve." I must point out, however, that the antiseptic method renders such risk extremely slight, and that the subjoined cases point to a distinctly different conclusion on every point at issue. As regards the "severity" being "unnecessary," of course that is a begging of the whole question. (Several interesting cases illustrative of the operation are related.)—*Medical Chronicle, Oct.* 1884, *p.* 9.

54.—ON A CASE OF CHARCOT'S JOINT DISEASE.

By WM. HAMERTON JALLAND, F.R.C.S., Surgeon to the York County Hospital.

Eliz. C., aged 48, a widow, was admitted in May, 1884. There was no history of any nervous complaints in any member of her family. She has had no children. Since her husband's death she has followed the occupation of a charwoman; she has got on fairly well, and has not suffered much privation. Until her present illness began she was always healthy.

Her present illness commenced eleven weeks ago. One afternoon she was scrubbing a floor, when suddenly she felt pain in her left hip; on trying to walk she found she was quite unable to get on her legs. She was conveyed home in a cab and put to bed, her neighbours looking after her. She did not send for a doctor, thinking it was simply rheumatism, and would go off again. Previous to this she had had no lancinating pains, did not stumble in the dark, nor had her sight at all deteriorated. She remained in bed about a fortnight, and then came downstairs. This she effected in a sitting position. She found she could get about her room by holding on to the furniture, but could not take a step without. By this time the pain had left the hip. Fresh symptoms were next developed—namely, pain and swelling in the left knee, both apparently rather extreme. After a few days these somewhat subsided. She was now medically attended, and an exacerbation of the knee symptoms occurring, she was recommended to apply for admission to the hospital.

Condition on Admission.—The patient complains of pain and sleeplessness caused by a "tumour" of her left knee. She looks fairly well nourished, but is evidently suffering a good deal. On examining the knee it is found to be much enlarged, there being an extreme amount of synovial fluid, while through the fluid firm enlargements of the head of the tibia can be felt. The foot and leg below the knee are œdematous, and there is distinct enlargement of the superficial veins over the joint. The condition of things was in fact compatible with new growth in the head of the tibia with secondary synovial irritation and effusion. The limb was placed on a McIntyre's splint and a Martin's bandage applied from the toes to above the knee. There was some pyrexia at night, the temperature rising to 101° and 102°. At first the pain continued severe and kept her awake. There was nothing, however, in the form of lightning pains, all unpleasant sensations being localised to the joint. A week after her admission the effusion had disappeared almost entirely and the limb was taken off the splint; in doing this sudden partial dislocation of the tibia and fibula backwards into the popliteal space took place; this was accompanied by much grating and was easily reduced. Subsequently this partial dislocation was frequently induced purposely, but it never caused the patient the slightest pain or inconvenience. The enlargement of the head of the tibia was now found to be due to osteophytic outgrowths; these were not very irregular, but formed a kind of collar round the head of the bone. The history of the illness, as already noticed, was now elicited, the patient previously having said nothing about her rheumatic hip. This hip on examination was found to be dislocated on to the dorsum of the ilium by simple rotation. This dislocation was easily reduced, the bone slipping into its socket with much grating; dislocation and reduction could be easily effected, and gave rise to no pain whatever. On making further examination, a hard, bony, smooth mass, osteophytic, could be felt growing from the pelvis in the right iliac region; this was about the size of an orange, and its surface was rounded; another mass of osteophytes could be felt running down the shaft of the femur, covering about the extent and situation of the upper third of the linea aspera. This chain was a very prominent one. No other joint or bone affection could be discovered. On testing for reflexes, plantar and patellar reflex were in both limbs absent. Muscular power seemed quite undiminished in the right leg. The condition of the knee and hip on the left side made it difficult to test the muscularity of that limb; but the patient was quite able to move it about. Sensation in the left limb was somewhat diminished as compared with the right. The pupils were dilated but did not act to light. Nothing was noticeable in the optic discs. After staying in the hospital about a month the patient was discharged. By this time the fluid in the knee had entirely disappeared, as had also the œdema of the foot and leg on that side; the pain had also gone, and there was no longer pyrexia. No other symptoms, save those already mentioned, appeared during her stay in the hospital. Unfortunately, after leaving she changed her address; endeavour was made to find her, but without success.

Remarks.—This case illustrates a point laid stress on by M. Charcot—namely, that the arthropathy appears, as a rule, very early in the disease, before incoördination. The suddenness of the onset and the insidious nature of the hip arthropathy were very remarkable, as the patient declared that until the afternoon on which, when scrubbing, she felt the pain in her hip she had felt perfectly well; for we can only conclude that the sudden pain and inability to stand or walk which came on thus rapidly were due to dislocation of the hip. Another remarkable point was absence of any atrophic change in the optic disc. This of course is very different from what one would expect to find, disc changes being generally the first objective signs of locomotor ataxy. It is also curious that we have an entire absence of lightning pains, the presence of which generally, according to Charcot, is the only exciting symptom of the complaint. Charcot also says that this arthropathy is not commonly accompanied by fever, but in this case the temperature at night for some time went up to 101° and 102°.

(Mr. Jalland's case of Charcot's joint disease will be found specially interesting when taken in connection with the discussion which followed Mr. Morrant Baker's paper read before the Clinical Society. In the prolonged discussion which followed the reading of the paper, most of the principal authorities expressed their opinions of the nature of the disease. These are too numerous to permit of mention here.—Ed.)—*Lancet, Jan.* 17, 1885, *p.* 106.

55.—ON CHRONIC ARTICULAR DISEASE.

By Richard Barwell, F.R.C.S.Eng., Senior Surgeon to Charing-Cross Hospital, London.

My last lecture on the subject of chronic articular disease concluded with a promise that I would give you some particulars concerning the management of its two principal forms—viz., that arising in the bone and that commencing in the synovial membrane. For both of these forms I recommended some sort of splint which, while permitting free movement of other parts, should obviate all pressure and motion of the diseased joint; above all other sorts of splint, I advocated one which I depicted and described. But it may happen that when the patient first comes to you the disease is already advanced, and may require some further treatment than mere rest; and under such circumstances the value of your having distinguished, by the means already indicated, the bone from the synovial malady, becomes manifest.

Let us suppose that a certain portion of bone—for instance, one of the femoral condyles or one side of the tuberosity of the tibia—is enlarged, painful, and particularly sensitive to pressure; that the pain augments at night, and in the more characteristic forms of disease the limb may start violently just as the patient is falling to sleep, and the skin over the tender point of bone may be red—these symptoms indicate that the inner parts of the bone are inflamed, and that the consequent hyperæmia and effusion within the solid case produce very considerable tension;

indeed, the last two symptoms show pretty clearly that suppuration is imminent or has already commenced. If this inflammatory tension, with or without suppuration, be allowed to continue, it will relieve itself in some direction, and in the vast majority of cases the inflammatory products tend towards the joint cavity. Now it is not, in my opinion, consistent with the surgeon's duty to stand aside and let such an injurious event occur; he has, indeed, the power to guide the morbid process along a safe course, and the opportunity which such power gives him should not be neglected.

As near as possible to the site of greatest tenderness and swelling he should choose a point whence he can reach the bone without opening the synovial cavity, and here, turning aside a little flap of soft parts, together with the easily detached periosteum, he may, with a small trephine head, make an opening in the bone; or if the subject be so young that the epiphysis is still cartilaginous, he may, with a gouge rotated in the hand, remove a plug of cartilage down to the osseous nucleus. While this is being done he must observe what sort of fluid flows. If it be not pus, he must examine with a stout needle fixed in a handle or in a needle-holder to find any softened or otherwise diseased bone that may enclose an abscess cavity. Pus, when present, should be detected and eliminated. The treatment, however, is quite successful, even though suppuration have not yet occurred. I have often obtained brilliant results by the mere evacuation of serum and of other inflammatory products; for tension within a rigid cavity, such as is the bone-end, very generally results in a necrosis, or in an abscess tracking towards the joint. When therefore, either by the evacuation of pus or otherwise, you have relieved this tension, pass a drainage-tube into the osseous opening, let the part thoroughly drain, and do not allow external healing to take place until the intraosseous inflammation and discharge has subsided. The cavity must become filled up by granulation from the bottom. By this means you may save many a joint that otherwise would be doomed to destruction. But the chief object of this lecture is to direct your attention to the treatment of that sluggish synovial disease which, as I pointed out a month ago, is not tuberculous, but strumous—that is, it tends to slow, persistent heaping-up of embryonic materials; of granulation which may ultimately undergo suppurative, fatty, caseous, perhaps tuberculous, degeneration. Now, the problem which in each case you must solve is how to check such accumulation, how to cause the absorption of some of this inflammatory material, and conversion of the rest into fibrous tissue. Let us consider the management of like material in a situation that we can see—as, for instance, lining or filling, perhaps overfilling, an indolent ulcer, which has no tendency to heal. You treat such sluggish and exuberant granulations chiefly by two methods—by pressure and by stimulation—by which means, unless the patient be too aged and debilitated, you may heal the ulcer; in other words, you cause the hitherto intractable granulations to assume formative actions to become a fibrous tissue. Now my practice, which I strongly recommend to you, is to transfer this sort of treatment to joints.

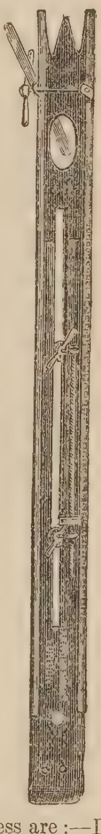
Pressure is a most valuable resource, especially when the tumefaction is neither very large nor very soft it may without stimulation bring about the desired result. It may be applied by means of strapping the joint either with resin-plaster or with one of the many medicated plasters, such as the iodide of lead, ammoniacum and mercury plaster, etc. It may be that these preparations are of some value. But you will observe that, to effect any good, the pressure must be equable as well as persistent; and it is hardly possible, unless the strapping be changed often, that it should be thus continuous. I therefore prefer, as a rule, and especially when the swelling is rather soft, to make pressure with a bandage of elastic webbing, which may be removed and replaced daily, if necessary, with perfect ease, and which keeps up more even compression. Should the swelling be large and soft, mere pressure is rarely sufficient to produce the required consolidation; the granulations must also be stimulated, and this is effected by injecting among them a solution of some slight irritant. A tubular needle, of calibre a little larger than that used for hypodermic injections, and provided with one or two lateral perforations not too near to the base, is introduced at the softest part of the swelling obliquely to the surface, so that, without penetrating what joint cavity may still remain, it may traverse a considerable amount of tissue. When it is thought that sufficient fluid has been injected in one locality, the needle may be partially withdrawn without altogether removing it, and passed, of course without any fresh skin puncture, in another direction, and more may be injected. The fluid which I have found most useful, and which never in my hands has produced any but good results, is tincture of iodine, beginning with half a drachm to the ounce of distilled water, and increasing even up to two fluid drachms. The quantity to be injected must depend on the size of the child and the amount of swelling. From one to two drachms are generally sufficient, and this may be repeated in different parts of the swelling every week, or even twice a week. In the meantime, pressure by the means above-indicated must be continued. Under the influence of this treatment, the soft tissue soon becomes harder and begins to retract, the swelling diminishes—in fact, the sluggish granulation forms itself into fibre tissue. But you must be aware of what this formation into fibre tissue means—namely, that a certain amount of the normally flexible and mobile textures which enclose the joint cavity become stiffened and thickened, encroaching on or occupying more or less that of space, according to the amount of granulation tissue formed previous to your interference. Thus, if the malady have been treated as above so early in the case, that only a thin layer of granulation had formed round and in the synovial membrane, only slight thickening will result—such thickening as is quite compatible with very good mobility—which will so increase that by some care and attention a normal state of the joint may be after a time assured. If, on the other hand, the disease has been allowed to go further—if, for instance, the joint cavity be filled, or nearly filled, with granulations, which, under treatment, solidify into fibrous tissue—much more serious impediment to mobility must result; the bones will be conjoined by a more or less dense ligament-like material; there is false ankylosis, and if, during the future course of events, this tissue ossify, bony union or true ankylosis occurs.

Now you will see the advantage of that which I insisted on in a former lecture—viz., placing each joint in a certain advantageous position; for instance, the elbow bent at a right angle, the knee straight, and so on; because, not only are such positions those which most readily conduce to cure, but also they are such as cause the limb to be most useful to the patient should ankylosis ensue or be inevitable. I must, however, remind you that we see in this hospital a great number of cases in which a joint has become ankylosed in a faulty position; sometimes the ankylosis is true, sometimes false; but in either case the patient is unnecessarily placed in a condition of great inconvenience, the limb being sometimes nearly useless, sometimes a positive encumbrance.—*Lancet, Nov.* 1, 1884, *p.* 763.

56.—A NEW LONG SPLINT FOR FRACTURE OF THE THIGH.

By George Shirres, M.B., C.M., late Resident Assistant Surgeon, Royal Infirmary, Aberdeen.

It has often occurred to me while putting up cases of fractured femur in Liston's long splint that if the splint could be lengthened after it had been adjusted to the limb, it would be an improvement; and it seemed that such an object might be attained if the splint were constructed of two pieces or slides fitting into one another. That by such means a splint might be made which could be altered to any length so as to suit a child or an adult, and which after it had been adjusted to the limb might be still further lengthened. With these ends in view a splint has been devised of which the accompanying engraving kindly supplied by Messrs. Arnold and Sons) gives a very good idea. This splint consists of two iron slides freely movable upon one another. The lower slide having its edges inverted so that the upper may fit into it. It is three feet long by three and a quarter inches broad. The upper slide has on its inner surface a strip of iron on each side; these when the slides are fitted into one another form a hollow along which iron plates may move. Each slide has a long narrow slit passing up its centre, on the sides of which supports may be clamped. Each slide is provided with a support; that of the upper slide consists of a brass bar in the form of a screw half an inch long. The top of this screw expands into a flat circular head with a hole in the centre. The foot of the screw passes freely through the centre of a circular iron plate one inch and a quarter in diameter, and is then riveted into the centre of another plate of the same kind. A thumb-screw turning around the brass bar acts on the upper plate, pressing it down. The brass bar passes along the inside of the narrow slit in the upper slide, the edges of the slit passing between the two iron plates which may by means of the thumb-screw be firmly clamped on to it at any part of its length. The lower support is nearly similar in shape to the upper one, and may in the same manner be firmly clamped on to any part of the slit in the lower slide. To the head of this lower support a screw, one quarter of an inch in diameter and nine inches long, is attached; the upper end of this screw passes through the hole in the centre of the head of the upper support. A disc one inch and an eighth in diameter travels along the screw between the two supports and catches the upper one. The thumb-screw of the lower support is provided with a shoulder which passes through the slit in the upper slide when the two slides overlap one another. The lower plate on the upper support and the upper plate on the lower one can be moved along the hollow between the two slides (formed by the two iron strips on the upper slide). So that the splint may be broken at any part by clamping the supports and connecting them by the long screw and disc. By moving the upper slide along the lower and clamping the supports when necessary, the splint may be made long enough to suit any patient, and when the splint has been adjusted to the requisite length it may be still further lengthened by turning the disc on the screw. The upper end of the splint is rounded outwards so as to fit into the axilla, and is provided with holes for the perineal band. There is an aperture in the splint four and a half inches from the lower end to accommodate the external malleolus. There is also a cross-bar fixed to the lower end of the splint acting as a foot-piece, which may be fitted on at either edge of the splint, so that it may be used for either side.



The advantages which I believe this splint to possess are:—It may be set at any length so as to suit a child or an adult. After the splint has been clamped at the requisite length and adjusted to the limb, extension may be put on by simply turning the disc on the screw so as to do away with the necessity of tightening the perineal band, forming at the same time a very easy and practical method of extension. In transport and on board ship, and in circumstances where weights cannot be used, the gradual extension, which can be produced by means of this splint, will, I believe, be found particularly valuable.

In working out this splint I have to thank Professor Ogston, of Aberdeen, for many valuable suggestions. The splint may be had from Messrs. Arnold and Sons, West Smithfield, London.—*Lancet, Jan.* 24, 1885, *p.* 152.

57.—ON A CHEAP FORM OF ARTIFICIAL LEG.

By Richd. Barwell, F.R.C.S., Surgeon to Charing-Cross Hospital.

For very many years—indeed, I know not for how many—all not wealthy persons, having the misfortune to lose a leg, were provided with a support for the body, termed a bucket or pin-leg. This extremely unsightly apparatus appears so hallowed by Rowlandson's and Cruikshank's drawings, and by the "Timber Toe" class of Dibdin song, that in England no serious attempt has been made to improve it. Nevertheless, it is for progression very awkward and clumsy; in sitting, especially if other persons be moving about in the room, extremely cumbersome. Nor is the bucket, with the upright and strap, a mode of fixation to which people become accustomed without previously undergoing a good deal of galling, abrasion, and other discomfort.

Hence it is somewhat surprising that a form of artificial leg known long ago both in Paris and Rome, should not have been more extensively introduced and appreciated here, especially as an article by Miss W. M. Wyse, and a pamphlet by General Maxwell, give excellent descriptions of the mechanism and reports of its efficiency. Probably the cause of this may be, that neither of those publications have fallen under the notice of hospital surgeons, or others having frequent occasion to order artificial limbs. Hence it appears to me desirable to make, through the pages of the British Medical Journal, these appliances more widely known.

They were invented about the year 1847, by the Comte de Beaufort, but have come more markedly into use in and after 1870. The count's inventions embrace both an artificial arm, with a movable prehensile thumb, and a leg. But in the present paper I shall speak only of the leg, deferring mention of the arm until a rather wider experience has been acquired.

Of the leg, two forms exist—the one for amputation below, the other above, the knee. We will begin with the former. It consists of, to quote in part General Maxwell—1. "A wooden foot, soled, and partly covered with leather;" 2. "Two uprights of beechwood, curved to the form of the leg, when seen from before or behind, and provided with a knuckle-joint in the position of the knee"; 3. "Between the uprights are leathern sockets, laced up in front—one for the thigh, the other for the shank or stump."

In this form the limb answers admirably, and many hundreds have been supplied by the society "L'Assistance aux Mutilés Pauvres," both in France and Italy; but the mode of workmanship and the arrangements of workshops in England render it simpler, and therefore cheaper, to make the uprights of steel. The following is the mode of manufacture, which, after many consultations on the subject, I have arranged with Mr. Schramm, of Belmont Street, N.W.

Leather or poroplastic felt is cut to the proper size, soaked or steamed, and moulded by hand and bandage to the thigh and to the thigh and leg-stump. While these are hardening, the necessary measurements for length are taken. A tracing is made of the foot, that the size of the artificial may correspond with that of the natural one. Also tracings are made of the outer and inner margins of the limb, as models of the curves to which the steel uprights must be bent. The foot, be it observed, is to be made of willow, the lightest wood. It is partially covered with kid leather, and Mr. Schramm has introduced a mode of fixing a leather sole on a removable German-silver plate, in such wise that any cobbler can renew it in half an hour.

The sole is not flat like that of a shoe, but curved, the curve being struck from the knee as a centre with a radius equal to the height; from that joint to the ground, this curve compensates for the absence of an ankle-joint. The steel uprights, jointed at the knee, are then rivetted to this foot and to the sockets already prepared, to which straps are also to be secured; hence results an artificial limb like that depicted below, which fits firmly, and adheres well to the stump, and with which patients walk very well indeed, with very little fatigue and without chafing. Its appearance may be much improved, however, by continuing the lower socket downward to the boot.

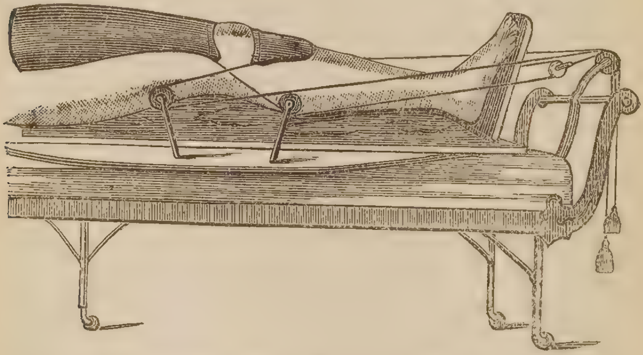
For amputation above the knee, with a tolerably long thigh-stump, some modification has to be introduced; thus the hinge of the upright at the situation of that joint must be provided with a simple mechanism that fixes it in a straight position, and quite stiff during progression, and which, by an action of the hand, may be released, allowing the limb to bend, as the natural knee does, in sitting down.

A few words concerning weight and price are now necessary. The Beaufort leg is stated by General Maxwell to weigh about five pounds; the limb as modified—namely, steel being substituted for wood uprights—weighs about four pounds. The price at which such a limb can be made is £3 3s. for amputation below, £3 13s. for amputation above, the knee. A pin or bucket leg costs from 25s. to 30s. Thus, in point of immediate outlay, the Beaufort leg is less advantageous than the sort of limb usually supplied; but, in point of appearance, utility, and comfort, there really is no comparison between the two; and indigent persons obtaining such pecuniary assistance as may be necessary, are able to follow their avocations with this leg in very considerable comfort, while to many, a little better circumstanced, such a limb is procurable without undue strain on their resources.—*British Medical Journal, Jan.* 10, 1885, *p.* 66.

58.—ON AN APPARATUS FOR FRACTURE OF THE PATELLA.

By J. H. HOBART BURGE, M.D., Brooklyn, U.S.A.

The apparatus here shown I have used in both hospital and private practice with great satisfaction. A very short description will suffice, since a glance at the instrument itself, or at the accompanying woodcut, will make all plain.



The padded straight board upon which the limb rests is five or six inches wide throughout its length, except that the upper end is somewhat broader, for the comfort of the patient. It is divided and hinged opposite the knee, to provide for slight passive motion, of which I shall speak further on. A movable foot-piece is attached. This straight board is hinged at its upper end to another board of about equal length, and wide enough at its middle third for the insertion of screws supporting little brass wheels, around which the cords are passed to the weights at the foot of the bed. The splints proper are of sole-leather—one about a foot long, five or six inches broad at its upper end, narrowed toward the knee, and made concave at its lower end to fit the upper border of the patella; the other splint about three inches and a half both in breadth and in length, cut out at its upper margin so as to fit the lower border of the bone. These splints of sole-leather should be soaked a few minutes in cold water, till they are quite pliable—hot water makes them too soft, and lengthens the time required for drying. Pad one side of each splint with cotton-wool, and cover neatly with ordinary unbleached muslin. Bind both splints to the limb, as nearly as possible in the position which they are intended to occupy, with a roller bandage. In a few hours they will be thoroughly moulded to the limb, and as firm as a board. The roller can then be removed. A small strong cord, for the attachment of the weights, should now be sewed firmly just above the concave margin of each splint and passed through the pulleys, as shown in the apparatus before you.

The splints are now so firm, and fit so accurately, that bandages are unnecessary. They require only to be tied in place, the bands passing not directly about the limb, but under the board upon which the limb rests. It may be well to pin these bands to the splints, to prevent their slipping. The weights may vary from one to three or four pounds.

When I first introduced this apparatus I made for it the following claims, which have been fully justified by subsequent experience:—(1) It leaves the injured bone so exposed to the surgeon's observation that he need have no anxiety in reference to *tilting*, *side-slipping*, or *retracting* of the fragments. (2) It grasps so firmly, and yet so tenderly, the quadriceps extensor, together with the upper fragment of the bone, that it enables us to approximate the broken surfaces more completely than I have ever been able to do without violence. (3) It is comfortable to the patient. (4) It is inexpensive, simple in all its parts, easily extemporised, and easily applied.

The entire cost is about twelve shillings. Any ordinary carpenter can finish the woodwork in two hours.—*New York Medical Journal, Sept.* 6, 1884, *p.* 259.

59.—ON THE TREATMENT OF SIMPLE CASES OF CONGENITAL CLUB-FOOT.

By George A. Wright, B.A., M.B.Oxon., F.R.C.S., Assistant Surgeon to the Manchester Royal Infirmary.

The pathology and treatment of congenital club-foot has always been one of the vexed questions of surgery, a fact to be explained by the comparatively small number of cases that have been dissected, and still more easily accounted for when it is recognised that there is no one single cause producing club-foot, but that the deformity is associated with several distinct conditions. Into the question of the pathology of the affection, however, I do not now propose to enter, but merely to indicate the line of treatment I have found most satisfactory.

Probably at least nineteen out of twenty cases of congenital club-foot are of the kind usually called talipes varus, though on every ground it is better to describe it as equino-varus. Whatever view we may take as to the initial lesion in the deformity, there is no doubt, I think, that it is best treated as a compound condition, that we should separate the equinus from the varus and remedy the latter first. Given then a case of congenital equino-varus, the problems in its treatment to be solved are:—(1) When is treatment to be begun? (2) Is tenotomy to be performed; if so, what tendons should be divided, and at what age? (3) When tenotomy is required should all the tense tendons be divided at the same time, and should reduction of the deformity follow immediately on tenotomy, or be delayed? (4) What is the best apparatus to apply? (5) How long is treatment to be continued, and is anything else besides apparatus required? (6) Is any graver operation than tenotomy desirable?

Practically the question of the management of equino-varus includes that of the rarer forms of congenital talipes, valgus, equinus, calcaneus, etc.

1. First, then, it might be thought unnecessary to insist upon the treatment of club-foot being begun immediately after birth were it not that I have more than once had cases, several months or more old, brought for relief, in which not only had nothing been attempted, but the friends had been told that the child was not old enough for any treatment yet. In a child a few days or weeks old more can be done in a week than is possible in a month in an older child. Treatment should be begun without a day's delay.

2. The question of tenotomy has been allowed to become largely one of fashion, some surgeons advising it in nearly every case, and others insisting not only upon its needlessness but upon the harm resulting from it. The rules I would follow on this point are—if the child is seen within the first few weeks of life tenotomy is very rarely if ever necessary; during the next two or three years two points have to be considered—first, what amount of care can be expended upon the case, and, secondly, how rigid are the tendons, *i.e.*, can the deformity be reduced by moderate force with tenotomy? If the child can be thoroughly well looked after, and its splints applied regularly and intelligently, tenotomy is not necessary in most cases until two years old, although it undoubtedly shortens the time required in reduction, and is sometimes desirable, certainly so where there is much rigidity and any doubt about constant care and management. Where the rigidity is so great in a child over three months old or thereabouts that the deformity cannot be com-

pletely reduced by reasonable force, tenotomy should at once be performed; such cases are, however, comparatively rare. I see no advantage in forcible "redressement" over tenotomy.

3. In equino-varus there is, I think, little doubt that if all three of the commonly divided tendons—tibialis posticus, tibialis anticus, and tendo Achilles—are to be cut, the two tibial tendons should certainly be done at the same time, and before there is any attempt to remedy the equinus. The plantar fascia rarely requires division except in neglected cases. Authorities differ as to the risks of immediate reduction after tenotomy. Personally, I think nothing is lost by waiting a few days after dividing the tendons, and possible mal-union or weakness may be avoided. I therefore wait three or four days.

4. As to the question of apparatus, I may clear the ground at once by saying that I never have used or seen the advantage of the more complicated instruments—shoes modified in various ways from Scarpa's, taliverts, and so on; they are too expensive for most patients, and I am quite satisfied with the results of much more simple apparatus.

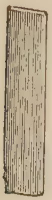


FIG. 1.

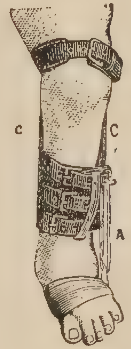


FIG 2.

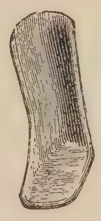


FIG 3.

Fig. 1.—Little's plain tin splint. Fig. 2.—The artificial muscle appliance shown correcting the deformity in a case of congenital equino-varus. (From a photograph.) A. The rubber ring or "muscle." B. Strapping round the foot. C. The side straps connecting the upper and lower buckles. The apparatus is a modification of Barwell's original plan. Fig. 3.—Little's tin talipes shoe, which may have a joint at junction of sole and leg pieces.

Practically I find one of three appliances will meet almost every case; the first two are of Dr. Little's invention, the third is a slight modification of Barwell's artificial muscle plan. To take a case of equino-varus in which the varus is to be remedied first. The first appliance is adapted only to infants or quite young children a few months old. It is simply a strip of thick block tin, long enough to reach from the knee to just beyond the end of the toes when the foot is pointed. This is bent to fit the foot along its outer side in its full equino-varus position. It is then bandaged on, no attempt being made to remedy the equinus or varus. When it is securely fixed to the leg and foot, the front of the foot (*i.e.*, the part beyond the transverse tarsal joint) together with the tin is gently bent outwards, so as to slightly improve the varus, leaving the equinus unaltered. The foot is left in this position till the next day, when the bandage is re-applied and a little further correction employed, and so on until the varus is completely reduced. As the tin is but little rigid this simple plan of Dr. Little's is applicable chiefly to quite young infants. If desired, two thicknesses of tin may be soldered together to make the splint stouter.

The second appliance (Fig. 3) is simply Dr. Little's tin splint, which I need not describe. It may be used with the foot-piece fixed at a right angle with the leg-piece, or better movable, so as to remedy the varus alone first. This splint is applicable to older and more rigid cases, as it is a much more powerful appliance than the last. It requires considerable care to apply it efficiently.

The third apparatus is Barwell's artificial muscle, applied somewhat simply. I use it in two different forms. The first form consists of Mr. Barwell's strip of tinned iron strapped to the front of the leg; on it is soldered a hook. A strip of strapping—I do not see any advantage in the trapezoid shaped piece he advocates—is wound round the front of the foot, and to its free end is fixed a loop of stout india-rubber cord or drainage tubing; this is then stretched up to the hook upon the tin splint above, so as to correct the deformity. The second way of applying the artificial muscle consists merely in substituting for the strapping and tin splint on the front of the leg, a broad leather strap with buckles round the leg below the knee, and connected to it above the knee a narrower strap to prevent the lower one from slipping down the leg. On the lower strap is fixed the hook on which the elastic is hitched. The object of using the strap and buckle instead of the tin splint and plaster is to allow the apparatus to be taken off to rub and wash the leg—a point to which I attach considerable importance, as tending to prevent, or, at least, remedy, the great muscular wasting which occurs in the course of the treatment of talipes if any rigid appliance is kept on constantly.

The only originality, if such it is, that I can claim in the plan I adopt is in the combination of Dr. Little's and Mr. Barwell's excellent appliances. I do not believe that either alone is the best mode of treating clubfoot, but I think that by first getting over the main rigidity of the foot by Little's splint, more is gained by the use of the artificial muscle afterwards; thus, I first apply the tin splint and remedy the varus and equinus up to a certain point, then, as soon as the parts are fairly relaxed, the artificial muscle is applied, and worn till the cure is complete.

5. As to duration of treatment, no hard and fast rule can be laid down; it varies in each case with the rigidity of the parts, the age of the patient, and the care expended upon it. In one case a few weeks, in another many months, may be required before the artificial muscle stage is reached. As soon as this can be profitably applied, the drudgery of the task is over, but the case cannot be considered cured; hence the answer to the fifth point, of the duration of treatment, can only be general. As Dr. Little points out, no case is safe from relapse until the patient is old enough to watch himself and correct the earliest sign of return of the deformity, although no doubt, by the use of the artificial muscle, another dictum of his, that there must be no walking till the deformity is remedied, may be set aside. It is, I think, a point of importance to have the artificial muscle removable, in order that friction may be used frequently to the limb; hence I much prefer the strap and buckle to the tin splint fixed on with plaster.

6. As regards the question of other operations than tenotomy, such as resections of wedges from the tarsus and such like, they are, no doubt, required in certain old rigid cases which have been utterly neglected; but though I have had occasion to perform the operation in a few instances, it has little to do with the treatment of ordinary cases of club-foot, and I do not propose to discuss it here, nor the different adaptations of treatment required for other forms of club-foot than equino-varus.

To sum up then:—In an ordinary case of congenital club-foot the treatment should be begun immediately after birth by the application of one or other of the tin splints mentioned. As soon as the rigidity is got over, an artificial muscle should be applied fixed to a removable strap and buckle. This should be taken off every night and morning, and while the foot is held in position the limb should be washed and well rubbed, and then the appliance put on again. In infants, the simple tin strip, bent first to remedy the varus, and later on applied to the back of the limb and sole of the foot to cure the equinus, should be used; in older children the tin shoe splint is better.—Where tenotomy is required, the after-treatment is precisely the same.—Great care is required in applying the splints not to be deceived by the rotation of the limb, and until the artificial muscle can be applied, so as to slightly over-correct the deformity, no walking is to be allowed. After this point is reached it does no harm, but rather good. By using the combination of methods here described, I find the management of club-foot a much more satisfactory matter than when other means have been employed.

The simple appliances mentioned can be procured anywhere, the tin splints from any sensible tinman, and the leather buckles from the nearest saddler. The essence of the matter is largely in the amount of trouble taken with each case.—*Medical Chronicle, Jan.* 1885, *p.* 322.

ORGANS OF CIRCULATION.

60.—ON PARTIAL SUBCUTANEOUS LACERATION OF ARTERIES.

By Charters J. Symonds, M.S., Assist.-Surgeon to Guy's Hospl.

[The details of the cases, seven in number, and which occurred in the practice of the author and his colleagues, are incorporated in the article from which the following abstract is taken]:—

By partial laceration of an artery is understood an injury in which the internal tunics alone are ruptured, the external, as in ligation, remaining intact. Under such a heading might also be included laceration where all the coats are divided and the lumen opened, but in which some portion of the wall remains continuous. Such an injury would manifestly give rise when extensive to the same signs as complete laceration, and when slight to the signs accompanying puncture of an artery as by a spicule of bone.

In that form of injury in which there is no escape of blood from the vessel, the immediate swelling that does occur is due to the escape of blood from the small vessels in the over-lying and surrounding tissues. Mr. Poland, in his paper on Rupture of the Popliteal Artery and Popliteal Aneurism, refers to the form of injury here considered in the following terms:—"The popliteal artery is very liable to incomplete rupture of one or more of its coats, such as is so frequently observed in the formation of popliteal aneurism, in many instances of which the lesion may be distinctly traced to external injury or violent exertion and straining of the knee." He dismisses this injury, however, for, as he states, he is dealing only with "lacerated or ruptured artery with extravasation." The laceration may extend all round the vessel so as to divide entirely the two inner coats. Then they curl up and occlude the vessel, or, there may be little or no incurvation. These appearances are beautifully illustrated in Mr. Bryant's work on surgery, and, as has been observed, resemble the effect produced by a ligature or torsion.

Nélaton, in describing Bérard's case, says, "A rupture of the two internal tunics of the axillary artery all round the circumference had occurred. The cellular tissue had become elongated like a tube."

It appears from the study of the cases I have recorded (see original paper) that besides the laceration above referred to, which extends all round the vessel, there is a slighter form in which but a part of the wall is injured, for it will be observed, on referring to these cases, that pulsation returned after a short time—five, three, and seven days respectively. This seems too short a time for the establishment of collateral circulation. In Sir James Paget's case of ligature of the axillary the pulse was not counted till five weeks after the operation. In what way the rapid return of pulsation may be explained will be considered later on.

The form of violence.—The cases illustrate two distinct ways in which the laceration is produced.

First, by a direct blow. In one case a cart-wheel passed over the groin and contused the common femoral just below Poupart's ligament. The injury was confined to the artery and the overlying structures, and so slight was the man's pain that to him the leg was in no way different from the other. Again, in a second case, the temporal artery was struck by the corner of a box. In a third case, also, the rupture of the artery was caused by a cart-wheel.

Secondly, by overstretching. This form of injury is illustrated by one of the cases. The arm was entangled in a rope connected with the revolving drum of a steam winch. The man was suddenly dragged forward and turned over the drum. The subclavian artery was ruptured in this case, and the cords of the brachial plexus were at the same time torn through.

Thirdly, by a combination of contusion and stretching. This injury occurs in dislocations of the shoulder where the head of the bone is driven against the artery. A case (of Bérard's) is recorded by Nélaton of a subcoracoid displacement in which pulsation in the vessels of the arm was absent. The axillary was obliterated by the method above mentioned, gangrene of several fingers ensued, and the patient died.

Nélaton records also a case of his own of subglenoid dislocation, in which he says the two internal tunics were torn through and a "false consecutive aneurysm" ensued.

Both these cases are mentioned by the late Mr. Callender, who also records an instance occurring in the practice of Mr. Stanley. This was supposed to be a partial dislocation of the humerus. There was no pulse at the wrist. Many years afterwards the patient died, and Mr. Stanley found on dissection "that there had been a fracture through the anatomical neck of the humerus, with obliteration of the axillary artery opposite the broken part of the bone." Mr. Callender suggests that only the inner and middle coats had given way probably at the moment of the accident. This view seems to explain the case fully.

The effects on the artery and the circulation.—Several results appear to follow this form of injury and call for some remarks.

The *first* and most frequent effect is *complete occlusion* of the vessel and arrest of the circulation. The arrest of the circulation was in neither of two surviving cases followed by gangrene, but that this does occur is proved by Bérard's case of ruptured axillary. The occurrence of gangrene depends not only upon the vessel injured, but also, and largely, upon the amount of injury sustained by the surrounding parts. Mr. Holmes remarks on this point, "If the injury be uncomplicated it probably will not lead to gangrene." There are not sufficient particulars of Bérard's case to enable one to say whether other structures were injured or not. It is probable also that in elderly people there is a greater liability to gangrene on account of the senile changes in the vessels.

Nothing could have been neater than the closure of the common femoral in one of my cases. The patient had far less disturbance of circulation than usually follows ligature of the superficial femoral, he was allowed to walk in about six weeks, and no doubt would have been up earlier had he not been under good supervision, for the man felt his leg to be as good as the other. There never was any œdema, and at the present time he is strong and well.

The *second* effect is *temporary arrest* of circulation. Three of the cases exhibit this result. In one case the obstruction was higher than the third part of the subclavian, in both the others the brachial was injured. In one of the latter the pulsation ceased abruptly at the middle of the arm immediately after the accident, and yet on the fifth day the radial pulsated.

In these cases one can only theorise, and suppose that a very limited laceration takes place, sufficient with the attendant clotting to produce arrest of the circulation, and that either by absorption or tunnelling of this clot the stream again passes on, the laceration healing so as to prevent the formation of aneurysm. It may be here observed that the large vessels of a limb may contain plenty of blood without pulsation existing. The presence of blood I have been able to demonstrate by the production of a wave in the radial, obtained by compressing the brachial and suddenly removing the pressure. This was observed in two cases. In one of them, on amputating the arm there was free bleeding from the brachial. I mention this to suggest that possibly in these so-called temporary occlusions there may all the time be a gentle stream traversing the vessel, insufficient to produce a pulse, but capable of being recognised by the above method. In one case we felt this wave on the third day, the first time the observation was made. This was accidentally discovered, one finger happening to be on the radial while the other hand was holding the arm. On relaxing the grasp a pulsation was felt. It is possible we might have found this wave on the first day.

If it be true that there is not complete arrest even temporarily, one can understand the force of the current being sufficient to restore the channel.

A *third* and very interesting effect is the formation of an *aneurysm.*

This ensued in one of the cases, the artery injured being the temporal. The pulsatile swelling was observed two days after a severe blow from the corner of a box, and, following so closely upon the injury, leaves no doubt as to its traumatic origin. The question of interest is the exact manner in which the aneurysm arises. Assuming the external tunic to have remained entire, two methods suggest themselves; the first, that rupture of the internal and middle coats occurs at the time of the accident, and that this injury involves but a part of the circumference. The circulation through the vessel is not interrupted, and, the laceration remaining unhealed, the external coat yields to the force of the ordinary blood-pressure, and a sac is formed, at first by this coat and subsequently in the external tissues after the manner common in traumatic aneurysm.

In Nélaton's account of his case of ruptured axillary artery mentioned above, he says that the two internal tunics were torn through over a very limited extent, and that a "false consecutive aneurysm" rapidly developed. This surgeon was obliged to ligature the subclavian three months later, but the aneurysm burst and the patient died.

This is the explanation usually offered when aneurysm follows an injury to an artery where no wound has been inflicted, and this whether the injury be a direct blow, as in the instance under consideration, or an overstretching of the vessel.

Writing on this subject, Lidell says, "When in such cases of incomplete laceration of arteries, the incurvation of the internal and middle coats does not suffice to block up the channel of the injured vessel, the pressure of the blood is liable to stretch the outer coat at the place of injury and expand it into an aneurysmal sac."

While adopting this explanation as the most probable, it must be remembered that it is largely a matter of inference.

The other mode of origin which suggests itself is that an inflammatory softening follows the injury. It appears quite possible that instead of the coats actually giving way a subacute inflammation may be set up, which by softening the wall would permit dilatation and aneurysm.

It is well known that hemorrhage occurs some days after bullet injuries, from inflammatory action ensuing in the arterial wall. "Such a result," says Mr. Bryant, "is rare in civil practice," but he speaks of a "secondary subcutaneous hemorrhage" occurring "some days after the injury." If hemorrhage may result, aneurysm seems equally possible.

As this bears upon the general question of the causation of aneurysm, more especially of the popliteal, it is necessary to be careful in admitting injury as the cause. Attention is often first directed to a part on account of an injury which was quite inadequate to lacerate the vessel. At the same time it would be difficult to say what is the smallest force necessary to rupture an atheromatous vessel.

Diagnosis and Treatment.—Loss of pulsation in the parts below the injury, with only a limited amount of swelling at the seat of rupture, and this without any pulsation, seem to be points sufficient for diagnostic purposes.

In a simple uncomplicated injury, no treatment other than rest, and careful bandaging of the limb, previously swathed in cotton wool, is necessary. The aneurysm which may follow on the large arteries is best treated, I imagine, by the ordinary methods, especially if there is reason to believe that atheroma exists. In my own case, as the artery was the temporal and the patient young, I intended first to try the effect of direct pressure, and failing this to tie the vessel on either side of the sac and remove the aneurysm.

Should the injury be recognised in a recent dislocation of the shoulder the reduction would not, I imagine, be delayed, but special precautions would have to be taken for the protection of the artery. If the dislocation be of long standing, there would be great danger of producing a complete rupture, as the vessel would most likely be adherent to the tissues surrounding the bone.—*Guy's Hospital Reports*, 1884, *p.* 275.

ORGANS OF RESPIRATION.

61.—TREATMENT OF EFFUSION INTO THE PLEURA.

By F. Bowreman Jessett, F.R.C.S., Surgeon to the Royal General Dispensary, London.

There can be no doubt, I think, that when fluid is formed in the cavity of the pleura, the quicker it is removed the better; that is, if it can be done without danger to the patient by the admission of air into the chest. How often one meets with chest-deformity, the result of old pleurisy, where the fluid has either been allowed to remain in the chest, until such time as absorption has taken place, or until it is found that the fluid still continues unabsorbed, notwithstanding the use of medicine and internal absorbent applications, when it is removed by tapping; not, however, until the lung is compressed, and in very many cases bound down by adhesive inflammation, and by bands of lymph. When once the physician is convinced that fluid is secreted in the pleural cavity, even in the acute stage, I am convinced that the sooner the fluid is removed by aspiration or by syphon-tube the better; and even if the operation have to be repeated two, three, or four times, yet no mischief is likely to arise from the operation. On the contrary, by relieving the pressure on the venous circulation, the congested state of the lung will be relieved, and the patient be in a much more favourable position for recovery. In cases of chronic effusion, where the lung is already compressed, then it would be wise to remove the fluid as early as possible, and give the lung a chance of expanding again and regaining its functions. The same rule applies in empyema; but in this case I think much good may be done by washing the pleural cavity out with some weak antiseptic lotion.

In chronic cases, great care must be taken not to remove the fluid too quickly; in fact, you cannot be too cautious, as there is always a fear of syncope ensuing. The reason of this is obvious, as the lung on the diseased side being bound down, and possibly diseased, or in parts in a state of collapse, the healthy lung cannot adapt itself at once to fill the cavity which has been emptied, and venous congestion and syncope are very likely to take place. Dr. Douglas Powell, Dr. Godrich, Dr. Behrer, and others, have drawn attention to this point. I cannot, however, but think that the danger from this source has been somewhat overrated; at any rate, out of a number of cases I have seen operated on, I have never seen any dangerous symptoms take place. Neither can I understand how such a state of things could take place; as it is evident that, unless very great suction-power be exercised, it would be impossible to draw out the fluid so as to give a vacuum in the chest. The aspirator that Messrs. Maw and Co. have made for me, and which I now have the pleasure of introducing to the notice of the Association, at any rate obviates all risk of such an accident, as by it you have the reservoir completely under control, and you can exercise any amount of suction you like.

In cases of chronic pleurisy, however, I should prefer aspirating the chest on more than one or two occasions, and emptying little by little, and so giving the damaged lung time to recover itself, without putting any very great extra labour on the lung on the sound side.

Dr. Godrich has drawn attention to the fact that he has seen the lung wounded on more than one occasion. This may be obviated by using a needle with a sheath to it; so that, as soon as you have introduced the needle into the chest-cavity, you can withdraw the point of the needle into the sheath; or the needle may be bent over at an angle of about 40°, so that the lung shall not be drawn upon the end of the cannula.

In cases of empyema, it has been objected that, although you may empty the chest again and again, yet the pus will rapidly re-form; and that, therefore, it is far better to perform paracentesis with an ordinary trocar and cannula, and to introduce a long drainage-tube, the end of which is to be emptied under a solution of some antiseptic. It is urged that in this way the chest-cavity can thus be kept washed out as often as is required. I cannot myself see any advantage in this, as the chest may be aspirated and washed out as often as necessary without any danger to the patient's life. Other surgeons advocate a free incision in one of the intercostal spaces, and emptying the chest.—*British Medical Journal, Nov.* 1, 1884, *p.* 852.

62.—PARACENTESIS AND ASPIRATION.—NEW ASPIRATOR; AND A KNIFE ESPECIALLY ADAPTED FOR THE OPERATION OF INCISION OF THE CHEST.

By John Ward Cousins, M.D.Lond., F.R.C.S., Surgeon to the Royal Portsmouth Hospital.

The danger of admitting air into a cavity or wound has long been recognised, and the history of the art proves that a very general conviction on the matter has existed during the past two hundred years. The surgeons of by-gone times discovered that putrefaction of the contents of a cavity often followed the entrance of air; and, moreover, that the exclusion of air was really the exclusion of a great element of danger. But the necessity of preventing its introduction was scarcely fully admitted until modern research had proved that unpurified air was the constant vehicle of septic particles, and that, in this way, they often obtained an easy entrance into the fluids and tissues of the body. The first principle of antiseptic treatment, then, is the complete exclusion of air in all surgical proceedings, whenever it can be accomplished; and, in all other cases, in which this attainment is impossible, the danger of septic change must be overcome by the purification of the air and surrounding objects, with the aid of subtle chemical substances, and the application of strict antiseptic precautions.

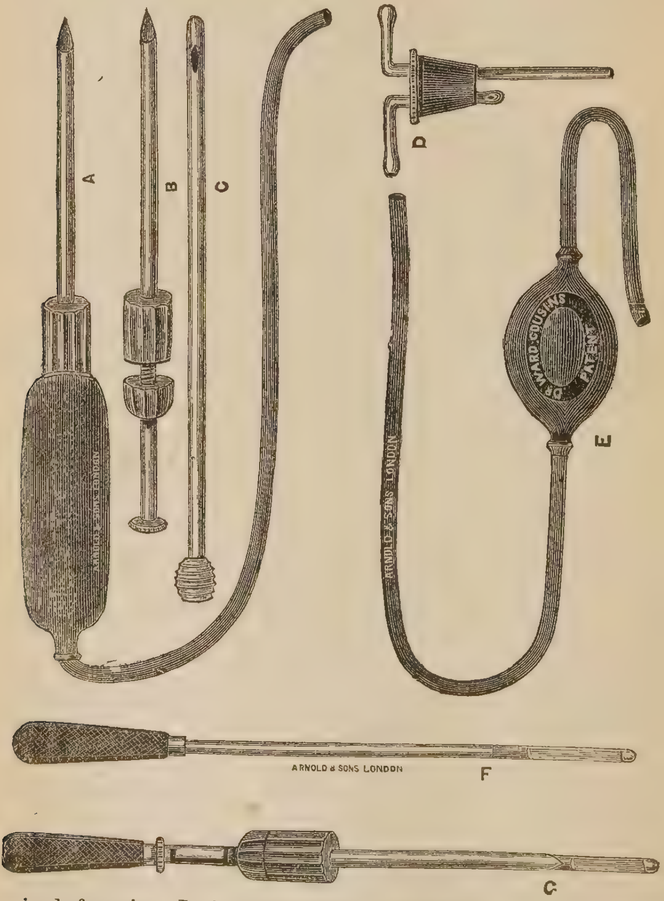
It is an obvious fact that the risk of surgical interference has always a direct relation to the size of the wound, the vitality of the region exposed, and the duration of the operation. Still, it is equally manifest that the particles of infection and putrefaction may find their way into the body through the smallest wounds, and during the performance of the simplest proceedings. Under some conditions, the entrance of a little air, at the time of an operation, is really a dangerous accident; and there is every reason to believe that a few bubbles of unpurified air may actually turn the scale in the direction of septic change. At the present day, there are few surgeons who doubt the practical value of Listerian precautions; and it is a fortunate circumstance that a belief in the germ-theory of disease, and an acceptance of modern speculations respecting the essential relation of micro-organisms to the fluids and tissues of the living body, are by no means necessary to the successful application of antiseptic treatment.

The practice of antiseptic surgery demands both time and labour. Often, in country practice, the surgeon is called upon to perform operations unexpectedly, and many miles away from his residence—out of reach of friendly assistance, and under circumstances in which the strict application of antiseptic precautions is a matter of impossibility. It is, however, the duty of all who undertake the responsibility of surgical proceedings to employ, as far as possible, every protective detail; and it may be confidently affirmed that this practice must be followed by a great reduction of risk, and, in the long run, a great saving of life.

It is now my intention to submit to you a few new contrivances for the antiseptic performance of some of the most common and most simple of all surgical operations. Hundreds of cases of tapping, aspiration, and incision are done daily in this country; and this fact alone must render any new and ready methods worthy of consideration, if only they are really found in practice to be easy, protective, and efficient.

The "improved antiseptic trocar" is made for me by Messrs. Arnold and Sons, of West Smithfield, in several convenient sizes, suitable for the various kinds of tapping and exploring operations. The admission of air is not merely prevented by the siphon-action maintaining a continuous flow, but the whole instrument, with the exception of the penetrating tube, is enclosed in an air-tight india-rubber case, within which it can be opened and shut by a simple joint-movement. The simple construction of the trocar will be readily understood by a reference to the engraving. It is composed of two tubes, which accurately fit one within the other. The outer carries a pen-shaped lance (Fig. B), and the cutting edge extends around only half the circumference of the tube. On its exterior there is a metal block, upon which a ring is firmly adjusted by means of a screw. The slit of a bayonet-joint is situated between this block and the other end of the tube. The inner tube is a hollow piston, round at the point, with a lateral opening (Fig. C). On the surface, a little stop is placed, which moves in the slit on the outer tube. At the other extremity, there is a grooved metallic boss, by which the sliding movements are readily performed. The india-rubber case and tube are continuous, and are made of thin material. An opening at the end allows the case to be drawn over the trocar by its own elasticity, and it is then securely closed between the block and metal ring. The block, moreover, serves for a handle to the instrument.

The complete trocar, ready for introduction, is represented at Fig. A. The pen-shaped point makes only a semilunar cut in the punctured part, by which the cannula is held more firmly in the tissues than by the triangular cut of the old trocar. All the movements within the india-rubber case are done by the hand unassisted by the eye, and these are very readily performed by any one after a little attention to the construction of the instrument. By the sliding action of the piston, the point can be easily exposed or protected, and, by slight lateral movements, the trocar can be alternately opened, half opened, or shut. The india-rubber case can be filled with water or some deodorising fluid as an additional protection. Air will not, however, readily run up the tube and cannula; for, the instant the instrument is introduced into a cavity, fluid rushes into the tube and drives the air before it. It is always well to carry out every detail by filling the case with water, and by keeping the end of the tube


A
B
C
D
ARNOLD & SONS LONDON
DR WARD COUSINS PATENT
E
ARNOLD & SONS LONDON
ARNOLD & SONS LONDON
F
G

carefully under the fluid towards the end of the operation; for, without these simple precautions, air may accidentally find an entrance during some movement of the body or change of posture. The antiseptic trocar is made in five sizes, and is thus adapted for every kind of operation. The smallest instrument is a capillary trocar, evacuating at the rate of about fifteen to thirty ounces per hour, and is extremely serviceable in cases of cardiac dropsy.

No. 2 I use for ordinary ascites. The discharge amounts to three ounces of fluid per minute; so that an ordinary effusion of fifty pints would require a period of about five hours for its removal. This is abdominal tapping by slow evacuation. The patient need not be discomforted by compressing the body with bandages to hasten the expulsion of the fluid. The drain is so slow, and the subsidence of pressure so gradual, that the blood-vessels are not subjected to sudden dilatation, and the circulation through the organs has time to maintain its proper balance. The operation causes no faintness or distress, but, on the other hand, imparts a gradual and increasing sensation of comfort and relief. No. 3 is a special instrument for tapping operations in renal and hepatic cases; No. 4 is the size I prefer for all effusions in the chest; and No. 5 is a large instrument especially adapted for cystic dropsy whenever the palliative operation of paracentesis is considered the right procedure.

A New Aspirator.—The antiseptic trocar can be instantly converted into a simple and efficient aspirator. For this purpose, the two-way india-rubber cork, Fig. D, must be securely fitted into a convenient glass-bottle, and the end of the trocar-tube connected to it. In place of the ordinary piston air-pump, I have introduced a very simple and handy exhauster. It consists of an india-rubber ball, fitted with small valves and a central recoil-spring, Fig. E. The direction of the discharge is marked on the outside of the ball. The instrument has no joints or stop-cocks to get out of order, and the opening and closing of the tube is regulated by the pressure of the finger and thumb. The operator requires no assistance, for, while controlling the flow with one hand, he can work the exhauster with the other. Gentle compression of the ball is often sufficient to sustain a steady evacuation.

New Method of Performing Incision of the Chest.—The antiseptic trocar can be easily converted into a blunt-pointed bistoury, for the treatment by incision of empyema, and other deep-seated abscesses. The knife is represented by Fig. F; the cutting edge is two inches in length, and is fixed at the end of a long stem, which permits it to be projected completely beyond the point of the trocar. The handle on one side only is ridged, and this is on the side corresponding to the edge of the knife. When this application of the instrument is required, the trocar must not be withdrawn, but only the india-rubber case and inner tube removed, so that the outer tube can be utilised as a sheath for the knife during its introduction. By this contrivance, the operation of incision of the chest can be very easily and rapidly performed, and the conversion of the exploring instrument into a bistoury is also serviceable in many other minor operations.

In many cases, the cutting from within outwards, after the insertion of the knife into the cavity, is more readily and safely accomplished than the usual method of direct incision. The operation can be rapidly performed in the following way. At the region of the chest selected, an exploratory tapping is made with the antiseptic trocar, No. 2 or No. 4—the former is a very convenient instrument for all cases occurring in children. If incision be now determined upon, the skin and superficial fascia are to be divided with a sharp-pointed knife, commencing at the point of penetration of the trocar, and extending in the direction of the intercostal space for about an inch and a half. The india-rubber cover and the cannula are then removed, the empyema-knife is slipped along the tube, and the incision of the deep structures completed by cutting from within outwards. I now introduce one of my self-adjusting drainage-tubes, and cover the wound with an antiseptic dressing and pad.—*British Medical Journal, Nov.* 8, 1884, *p.* 902.

63. ON SOME COMPLICATIONS OF TRACHEOTOMY, WITH ILLUSTRATIVE CASES.

By Robert William Parker, M.R.C.S., Surgeon to the East London Hospital for Children.

In children, the chronic conditions which may demand tracheotomy are: (*a*) chronic laryngitis, and (*b*) warty laryngitis (papilloma). From a consideration of the pathological anatomy of these conditions it will at once be evident that obstruction to the breathing may sooner or later come on, and how and why a little fresh catarrh or the occurrence of an exanthem or of hooping-cough may suddenly render these conditions of very serious import, and introduce an element of danger which will be great in proportion to the youth of the patient.

Chronic Laryngitis is usually secondary to an acute attack; and when it attacks the larynx, in a majority of instances it is by direct extension from the pharynx, or it depends on some constitutional peculiarity. Chronic catarrh leads to enlargement of the racemose glands and to general thickening of the mucous membrane and submucous tissue; the calibre of the larynx and trachea is thus narrowed; moreover, there is increased secretion of mucus, which is very tenacious, hard, and difficult to cough up. Owing to their small size in early life, stridor and dyspnœa quickly supervene on the slightest exacerbation of the conditions—such as that produced by simple catarrh, for instance. In other cases the onset of dyspnœa is very gradual; it is at first most obvious during the night when the child is asleep, and little by little as it progresses sleep becomes much disturbed. The stridor then becomes audible during the day-time, and is worse after crying or emotion of any kind. On examining the chest, the soft parts will now be found to sink in with respiration, and in children old enough to talk an alteration in the tone of the voice will become noticeable. Gradually the breathing becomes more and more laboured, and the voice, which is hoarse from the first, is finally suppressed. The following is a typical case.

Case.—Chronic Laryngitis; no obvious Cause; urgent Dyspnœa; Tracheotomy; Difficulty in removing Tube; Recovery.—C. B.—, a little boy, aged four years, was re-admitted into the hospital on account of an increasing dyspnœa. He had already been under observation a few weeks previously for the same condition, for which he had been successfully treated with iodide and bromide of potassium, and local astringents. The condition had come on so gradually that the exact date of its first onset could not be fixed. At first it was chiefly noticed at night; then became evident during the day; there had, however, been slight exacerbations from time to time whenever the boy cried or caught cold; his voice had been hoarse for some time past. At the time of his re-admission his symptoms were almost urgent; his pharynx on examination was swollen and congested; the epiglottis also appeared thickened; the voice was hoarse and half suppressed, and he spoke with great effort. He was immediately placed in a croup bed, and sedatives were added to the warm moistened air he was made to breathe; after a while he improved slightly. His dypsnœa was always worse at night; for two or three nights after his admission, between 11 p.m. and 2 or 3 a.m., the breathing was so laboured that tracheotomy seemed unavoidable. However, towards morning, the violence of the attack passed off, and he slept in comparative ease. Matters continued like this for a week, and as there was no permanent improvement in his condition, tracheotomy was performed. Subsequently he did well; his anxious, careworn expression gradually wore off, he slept soundly, his appetite and spirits and strength returned. I need not detail all that transpired within the next three months, during which he had to wear his tube. We tried his breathing power on several occasions, but he could not get on for very long without his tube. The boy was of a highly nervous temperament, and he greatly dreaded its removal. A subterfuge was finally adopted; a window was cut in the tube just at the angle, and the external orifice was corked; this obliged the boy to breathe through the glottis, while the presence of the tube in the trachea lessened his nervous agitation. To this he gradually accustomed himself, and little by little also he learned to sleep with the tube corked. Meanwhile his throat was sprayed with astringent applications, and the sub-inflammatory condition at last subsided; the boy also grew considerably. Finally, after many failures, we succeeded in removing the cannula; but his inspiration continued noisy for many months, though it had ceased to be laboured. His general treatment consisted in a liberal diet, with cod-liver oil and steel wine.

In many similar cases which I have seen at various times the nocturnal exacerbation of symptoms has occurred; the crisis is reached between two and three o'clock in the morning; the difficulty then appears to have expended itself, and comparative ease and quietness follow.

Warty Laryngitis (*Papilloma*).—Dr. M. Mackenzie, in his work on the Larynx, p. 300, says, "Chronic congestion of the laryngeal mucous membrane is, far above all other causes, the most important etiological feature in the production of simple morbid growths in the larynx."

I am inclined to attribute greater weight to personal predisposition than to chronic congestion, which is itself a morbid condition. Among poor children chronic laryngeal catarrh (chronic congestion) is common, while warty laryngitis is very uncommon. Warty laryngitis is occasionally congenital; I have myself seen one or two instances in the bodies of children who have died of other complaints, and before the local condition had had time to manifest itself.

Such cases, when they can be diagnosed, should be taken in hand at once. Nothing is gained by waiting; the warts spread, they grow larger, and every subsequent operative interference beyond the first one adds to the dangers and uncertainties of the case. If the diagnosis of warts can be made with certainty, an attempt to remove them one way or another should be made. Since writing this, a case has come under my care in which I have performed thyrotomy, and removed an immense crop of warts filling the interior of the larynx. The child has done well; she is still under care.—*Lancet, Jan.* 31, 1885, *p.* 193.

64.—ON CLEARING TRACHEOTOMY TUBES.

By J. SCOTT BATTAMS, Resident Medical Officer, East London Hospital for Children.

[In consequence of the lamented death of Dr. Rabbeth from clearing a tracheotomy tube by suction with the mouth, this subject has become one of great importance.]

Speaking from my own experience, I should say that in hospital practice it ought to be extremely rare to have a case of tracheotomy in which it could be necessary to apply the mouth for suction purposes either to the tube or to the tracheal opening. It indicates, as a rule, faulty methods and instruments. At the time of the operation, and before the tube is inserted, the wound should be kept open with dilators, and all obstructing membrane removed. This is best done by passing feathers into the trachea and twisting them round. The membrane is thus easily withdrawn, or so loosened and detached that it is expelled by the reflex cough excited. Should the membrane have extended into the main bronchi or tubes, or should much blood have been inhaled, and respiration seem to be impeded from these causes, then it is almost useless to suck the tube with the mouth. Some form of elastic tube should be passed down the trachea, and suction with the mouth or a syringe practised. The "tracheal aspirator" designed by Mr. Parker, and figured in his book, is a most simple and useful appliance for this purpose. It consists of a small glass cylinder, to one end of which is attached a flexible tube, and to the other a glass mouthpiece. The glass cylinder can be half filled with antiseptic wool, and thus all risk of infection is prevented. An alkaline spray greatly assists the solution and expulsion of membrane. In the absence of the tracheal aspirator, an elastic catheter may be used, or a piece of drain-tube. I have frequently used a combination of catheter and elastic tube. A few layers of antiseptic gauze or other material placed over the sucking end of the catheter make the proceeding practically safe. An easily worked syringe might be attached to the catheter, though the mouth is the most efficient suction machine. It is in the subsequent stages of a tracheotomy case that these last measures are chiefly demanded. But whenever during the course of a tracheotomy case the breathing becomes at all seriously impeded, the tube should be at once removed, the wound kept open with dilators, and the trachea feathered and sprayed.—*Lancet, Nov.* 15, 1884, *p.* 897.

ALIMENTARY CANAL.

65.—GASTROSTOMY FOR STRICTURE OF THE ŒSOPHAGUS.

By JOHN FAGAN, F.R.C.S.I., Surgeon to the Royal Hospital, Belfast.

I question if, among the many painful cases it falls to the lot of the surgeon to deal with, there is any that gives him more anxious concern than one of stricture of the œsophagus. Putting aside the congenital and nervous forms of this affection, we have now only to deal with the organic. This may be of a simple or a malignant character.

If there be no history of injury sustained, and we can exclude tumours formed outside the tube, it is a most difficult matter to decide whether the obstruction be of a malignant or fibrous nature;

in its earliest manifestations, it is almost impossible. In several cases lately operated on, as reported in the journals, where the clinical features pointed to malignancy, the *post mortem* examination revealed them to be simple fibrous stricture, and *vice versâ.* I believe cases of simple fibrous stricture, without any history of previous injury, are of more frequent occurrence than is generally supposed; the wasted, worn aspect produced by inanition gives the patient a cachectic look, and thus inclines one to the opinion that the affection is malignant.

When the obstruction has existed for a considerable period—say from nine to twelve months—and has evenly, almost imperceptibly, increased, and when there are no physical signs of malignancy present, the case is more than likely one of simple fibrous stricture. On the other hand, although all the physical signs of malignancy be absent, if the dysphagia suddenly manifests itself in a marked degree, and after this the patient rapidly loses flesh, the case is almost sure to be one of malignant stricture.

In the first stages of idiopathic or malignant stricture, the patient, as a rule, is under the care of a physician, who treats the dyspeptic symptoms, occasionally passing a bougie, and in this way temporises till it assumes a serious aspect. The propriety of surgical interference is then for the first time entertained, and the question arises, Is the patient to be let die of starvation, or do his condition or chances of improvement justify one in subjecting him to the risks of such serious operations as œsophagostomy or gastrostomy? Cases due to traumatic causes, as the swallowing of caustic fluids, or the presence of rough foreign bodies in the œsophagus, come immediately under the care of the surgeon, and are dealt with on sound surgical lines, according to the conditions existing at the various stages of the case.

I will now direct myself to the consideration of the first class of cases that come most frequently under our care, and generally at a period when the patients are reduced to a very low state by a process of slow starvation, as well as from the effects of the malignant dyscrasia. When we see a patient in danger of death from persistent obstruction to the passage of food into his stomach, we will agree that it is desirable an effort should be made to establish an artificial opening through which it could be administered. The two ways of accomplishing this end are œsophagostomy and gastrostomy.

Notwithstanding the able advocacy for the first of these methods by Mr. Reeves, the great majority of experienced surgeons are against it, on the grounds that it is a more difficult and dangerous operation than gastrostomy, as well as from the fact that it is not applicable in most malignant cases, where the disease is usually found at the cardiac end of the œsophagus. The other more usual and safer method of relieving this state is gastrostomy.

We will now consider under what conditions this should be practised. Our object in the performance of all operations should be to prolong the life of the patient, as well as to render what remains of it, if not more useful and enjoyable, at least more tolerable. I believe that, in a great number of the cases subjected to this operation, the very opposite has resulted, life curtailed and suffering increased.

What, then, is the value of gastrostomy, and under what conditions should it be practised? In considering this aspect of the subject, it may be well to make the following divisions into, first, cases where the obstruction in the œsophagus is impassable; second, where the obstruction is considerable but not impassable.

I would venture to suggest the following rules regarding the performance of the operation of gastrostomy.

1. In cases where the obstruction is partial, it should not be entertained in non-malignant cases so long as a bougie can be passed, or a tube worn to enable the patient to take sufficient nutriment. But should the passing or wearing of an instrument cause great irritation, while the difficulty in overcoming the obstruction is increasing, the operation may, I think, with justice be undertaken. For by it the affected parts are placed in a state of physiological rest; which tends not alone to the improvement of the part, but renders it more amenable to other forms of treatment.

2. In cases due to malignant obstruction, where the dysphagia is becoming both painful and more marked, if the permanent wearing of a tube cannot be tolerated, there should be no time lost in performing a gastrostomy.

3. In cases where the obstruction is almost complete, and where in non-malignant cases bougies cannot be passed, and before the patient becomes too much exhausted and the digestive functions vitiated, the surgeon is fully justified in urging the operation.

4. In cases where complete obstruction has existed for a short time, the patient's strength being fairly sustained by enemata, and there is no malignancy, the operation may be undertaken with hopes of improvement; in malignant cases, at this stage, it should not be urged.

5. In the advanced stage of complete obstruction, no matter what the cause be, the operation should not be undertaken, for the patient, if he survive the immediate shock from it, cannot live more than a few days, that are passed in increased discomfort.

Regarding the mode of performing the operation, surgeons differ, 1, as to the course of the incision; 2, as to the mode of attaching the stomach to the abdominal wall; 3, as to the time and mode of forming the fistulous opening.

Regarding the first, I do not think it makes much difference how the incision is made, provided it is just large enough, and so placed as to allow of the stomach being seized and drawn through the wound.

Theoretically, an improvised sphincter to guard the fistulous opening is a very desirable thing, but if the vertical incision renders the operation more tedious or difficult, I question if the practical advantages supposed to be gained by it will make up for that. The usual incision, and the one which I have practised, is the oblique, commencing a little below, and to the left side of, the tip of the ensiform cartilage. By this I believe the stomach is best exposed, and most easily secured. In carrying out this first step of the operation, the mistake is generally made of placing the line of incision too near the border of the costal cartilages. The finger's breadth that is usually recommended looks, before operation, just sufficient for the purpose; but after the incision is made the upper flap is retracted and gets tucked up close to the ribs, rendering it impossible to pass the outer ring of sutures, should such be the intention of the surgeon. The incision should be begun about an inch below the tip of the ensiform cartilage, a little to the left of the middle line, and extended obliquely downwards and outwards, keeping at least fully two inches from the border of the costal cartilages. The minor details of this step of the operation I may pass over. There are also different methods practised of attaching the stomach to the abdominal wall. The ordinary one, by the single ring of sutures, although simple and expeditious, is not a secure one. There is great liability for the weak attachment to give way at points, and in this way subject the patient to the risk of extravasation into the peritoneal cavity.

As regards the manner of forming the fistulous opening in the stomach, I agree with those who advocate the small one. In the last case I operated on, I found the following method of making the opening an admirable one. While the exposed portion of the stomach was held well forward, I passed a tenotomy-knife obliquely through its coats, making a small opening. I then slipped along the blade of the knife, as a director, an ordinary silver probe, bent to a right angle, about an inch from the point. I next removed the knife, and introduced another probe, similarly bent. Then, finding out the course of the muscular fibres, and pulling at right angles to them, I thus secured an opening that easily admitted a No. 9 catheter. After food was administered, and the catheter withdrawn, the opening closed, and effectually prevented any regurgitation. For the first three or four occasions, it may be necessary to use the probes till the fistulous opening becomes sufficiently patent to allow the passage of the catheter. The little fluid, not more than a few drops, that escapes at the moment of the withdrawal of the point of the catheter from the wound, can be safely guarded against by a little roll of absorbent wool, placed round the opening. I have seen the thermo-cautery used for making the fistulous opening; and those who fear hemorrhage from the stomach-wall will find it a safe and effectual means.

The time for opening the stomach should vary with the requirements of each case; in some, it should be done immediately; in others, the full period of four or five days may be allowed to elapse, as recommended by Mr. Howse.

In cases that are very much reduced and feeble through inanition, and especially in malignant cases, I think it is most injurious to defer the final stage, as the increased depression from want of food, aggravated by the shock of the operation, subjects the patient to far greater risk than the chance of setting up inflammation from extravasation into the peritoneal cavity. After a carefully conducted operation, such as those practised by Dittell and Howse, the risk is almost *nil*. In non-malignant cases, where the operation is likely to result in a permanent benefit to the patient, and in the very early stages of malignant obstruction, Howse's method of dividing the operation into two stages is the more preferable, as by it a more permanent and accurate attachment is more likely to be secured all round the fistula; besides, the patient is in a better condition to be subjected to such treatment.—*British Medical Journal, Oct.* 4, 1884, *p.* 648.

66.—ON THE TREATMENT OF CANCEROUS STRICTURE OF THE ŒSOPHAGUS BY RAILWAY CATHETERS AND SOFT INDIA-RUBBER TUBES.

By James Berry, Demons. Anatomy, St. Bartholomew's Hospital.

My object is to suggest some improvements in the method of œsophageal catheterism, which at once increase its range of applicability and obviate some of the disadvantages which belong to it as commonly employed.

In the first place, the use of an ordinary gum-elastic catheter or bougie is open to the somewhat serious objection that it frequently gives the patient much pain and inconvenience on account of the stiffness of the instrument employed. The point is liable to press against the œsophagus during the patient's movements, and to lead to such an amount of discomfort as frequently to necessitate the discontinuance of the method and the substitution of the formidable operation of gastrostomy.

Secondly, a time is likely to come, sooner or later, when the catheter cannot be passed at all.

Lastly, there is the danger that the point of the catheter may in its passage perforate the œsophageal wall, especially when it has become thinned or softened by the disease. An illustration of the reality of this danger has lately been afforded by a case that has occurred at this hospital, where the catheter, having perforated the œsophagus just above the stricture, set up suppuration in the posterior mediastinum, which proved fatal in a few days.

The second and third of these dangers are, it is true, diminished the longer the catheter is retained in the œsophagus without being changed; but occasional removals must be necessary, whether for the purpose of cleaning it, or, if the stricture has not yet been sufficiently dilated, for the introduction of a larger instrument; and whenever the catheter is taken out, there is always the risk either that it may be found impossible to reintroduce it, or that harm may occur in so doing.

The method by which I propose to avoid these risks consists in the employment of tubes with terminal openings (*railway catheters*), which are both introduced and withdrawn by sliding them over a catgut bougie previously introduced. Before the tube is withdrawn the catgut is first passed through it into the stomach, and over this the tube can again be readily replaced, exactly as is done in the treatment of urethral stricture by railway catheters. By this means the stricture is never for a moment without something in it, either a tube or a catgut guide, and the tube can be changed without any fear of losing the way through the stricture.

The tube having been thoroughly oiled both *inside* and outside, the catgut, which need not project for more than 2 or 3 inches beyond the lips, should be held between the forefinger and thumb of the left hand, close to or just within the lips, and the tube held in the right hand, passed over the projecting catgut, and pushed on until the end is arrested at the point at which the catgut is held; it is still pushed on until the first 2 or 3 inches have been doubled up, and compressed into a good deal less than half that distance. The finger and thumb of the right hand now grasp both catgut and tube, and, the pressure of the other hand being relaxed, the compressed end of the tube is free to straighten itself out by its own elasticity, and does so by travelling a little way down the mouth. The same process is then repeated, the left finger and thumb now grasping both tube and catgut close to the lips as before, while an additional 2 or 3 inches of tubing is again pushed up against them, and fixed by pinching both tube and catgut; once more the pressure of the left hand is relaxed, and another portion of the tube is allowed to straighten itself out by making its way down the mouth and throat; this process is repeated until the whole length of the tube has passed over the catgut, which will then appear from out of the end of the tube without itself having been moved. The manner of progression of the tube is very similar to that of a caterpillar, which advances by alternately hunching its back and then straightening it. By this means no more force can be used than is presented by the elasticity of the tube itself.

If the tube stick at the stricture, it is a good plan to grasp both tube and catgut, push them on together for a short distance, and then withdraw the catgut into its original position again. To facilitate also its entrance into the stricture, it is well that the end of the tube should be cut obliquely. This process of introducing the tube gives the patient hardly any discomfort and lasts only a very few minutes; it is, moreover, wholly free from any risk of perforation.

[The following cases are given:—

1. Female, æt. 53. Malignant stricture opposite cricoid cartilage of 8 or 9 months' duration. When seen, quite unable to swallow. No. 1 gum-elastic catheter passed, and in four days a tube $\frac{1}{4}$ inch in diameter.

2. Male, æt. 46. Stricture situated near larynx, of two months' duration. No. 1 catheter only would pass; ultimately soft tube $\frac{3}{8}$ inch in diameter. Death in 9 weeks from secondary affection of liver.

3. Male, æt. 45. Stricture about mid-œsophagus, with probable tracheal fistula of 3 months' duration. Small catgut guide passed, then railway catheter, ultimately No. 9 catheter. Died after seven days of treatment, with gangrenous patches in the lungs.]

If the patient be seen at an early stage of the disease, when the amount of constriction is not great and the difficulty in swallowing is slight, the periodical passage of a good-sized catheter or œsophageal bougie will be sufficient, and the patient may be taught to do this for himself. If there be much difficulty in swallowing, then it will be best for the patient to take his food through the catheter, and not to attempt to swallow it in the ordinary way, as this would only tend to increase the sacculation of the œsophagus above the seat of stricture. But, perhaps, when the patient first applies for treatment, there may exist a moderately tight stricture, barely admitting a medium-sized catheter, or there may be much difficulty in the passing of it. In such a case, the best treatment will be that of continuous dilatation, at first by ordinary railway catheters of small size, then by larger soft tubes having terminal openings, and passed always over a catgut guide. As soon as a large tube can readily be introduced, the periodical passing of it may perhaps again be resorted to.

If, however, when the patient first comes under the surgeon's notice, the degree of obstruction is so great as to render the passage of any small catheter exceedingly difficult—and it often happens that patients do not apply for treatment until they have reached this miserable condition—then recourse should be had to a catgut bougie. Now, I think that, however bad the stricture may be, it must be very rarely indeed that a catgut bougie cannot be passed, if only sufficient care and trouble be taken in the attempt. In selecting a bougie for this purpose, care must be taken that it be long enough (at least twice the length of an ordinary catheter), that it be sufficiently stiff, and that it be straight or only slightly curved: a bougie which is soft, or which has lost its shape from having been rolled or doubled up, cannot easily be passed.

It is probably best to try at first with a medium-sized catgut, since the most slender are not so easy to introduce, and the larger ones will not allow a small catheter to pass over them. In attempting to introduce the bougie, the *utmost gentleness* should of course be used, on account of the danger of perforation which must necessarily exist to a slight extent at this first introduction. If much coughing and choking be induced, it is much best to abstain from pushing the bougie fárther, and to hold it perfectly still for a minute or two, when the spasm will speedily pass off. Any attempts to push the instrument on during the coughing or struggling of the patient can do no good, and may be dangerous.

When any difficulty occurs in getting the point of the bougie to pass in the desired direction, I have sometimes succeeded in overcoming it by making the patient attempt to swallow a few drops of water, and by gently pushing the bougie onwards just as the water is being swallowed.

If there is much dilatation of the œsophagus above the stricture, the bougie is less likely to hit the entrance to it, but may slip into the pouch at the side. In a case of this kind, I think it is a good plan, after the bougie has been passed nearly down to the stricture, to direct the patient to swallow several times, and to push the bougie onwards a very short distance between each act of swallowing; this helps to keep the point in the right path. The advantage that may be gained by slightly bending the end of the catgut is too well known to need further allusion. I may here say that I have never found it necessary to employ anæsthetics. Although doubtless sometimes useful, their employment would of course do away with any help that the patient is himself able to give. All the bougies, catheters, and tubes used were passed by the mouth, and not by the nose.

As soon as the catgut bougie has been passed into the stomach, it is advisable to pass over it at once an ordinary gum-elastic railway catheter. I have found that a railway catheter of comparatively large size can often be passed with ease in this way, while an ordinary catheter considerably smaller can be introduced only with great difficulty. If possible, the catgut should not be left by itself in the stricture, since in a very few hours it becomes so soft that the subsequent introduction of a catheter over it becomes by no means easy.

Having introduced the catheter, the catgut may now be withdrawn and the former tied in. This may be most securely effected by tying it to the patient's moustache or whiskers, if present, or, if the face be a smooth one, to the teeth, the ears, round the head, or by strapping to the cheeks. The first method is preferable, whenever possible. It is desirable that the end of the catheter should project as little as possible from the mouth, since, if it has much room to play about from side to side, the catheter is more likely to slip out. It is best to secure it on both sides of the mouth, so as to limit this movement as much as possible.

In all the cases the seat of obstruction was comparatively high up in the œsophagus. To what extent the difficulties of this method are, if at all, increased by the obstruction being nearer to the stomach, I know not. I have not yet met with a case of cancer at the cardiac end of the œsophagus in which I could put this method to the test.—*St. Bartholomew's Hospital Reports*, 1884, *p.* 46.

67.—ON THE SPONTANEOUS CURE OF INTUSSUSCEPTION AND THE FREQUENCY OF ITS OCCURRENCE.

By Fred. Treves, F.R.C.S., Surgeon to the London Hospital.

The question is one of considerable interest, and one that has conspicuously influenced the whole subject of the treatment of intussusception. It is well known that, in any cases of invagination—excepting those that are ultra acute and some that are following a persistingly chronic course—spontaneous cure may follow the elimination of the gangrenous intussusception. Such cure has taken place in cases marked with symptoms of the gravest character, in cases where the patient has been lying *in extremis*, and in a condition that has been considered to forbid any operative interference. Indeed, it may be said that, within certain limits, no case may be regarded as so desperate as to be beyond all hope of relief by spontaneous elimination.

Patients thus relieved have made excellent recoveries, and have apparently suffered no inconvenience, even in cases where several feet of intestine have been lost.

It has been stated that patients who have recovered after the elimination of a portion of gangrenous bowel, are liable to a stricture of the intestine about the line of separation. An extended examination of the literature of intestinal obstruction, and of a large series of museum specimens, shows, however, that this possible sequela must not only be regarded as uncommon, but as quite rare.

It remains now to consider what are the precise prospects of spontaneous cure that may be held out to a patient in any given case.

Spontaneous elimination takes place in about 42 per cent. of all cases of intussusception. It must not, however, be for a moment assumed that all cases of spontaneous elimination are followed by recovery.

Spontaneous elimination is greatly influenced by the site of the invagination. In the ileo-cæcal forms, it occurs in about 20 per cent. of the cases; in the colic form, in 28 per cent.; and, in the enteric variety, in 61 per cent. It will thus be seen that the charge is most unfrequent in the commonest form of intussusception.

It is much influenced also by the patient's age, as the following table, drawn up by Leichtenstern, well shows.

In patients under 2 years of age, it occurred in 2 per cent. of the cases.

Between the 2nd and the 5th year	„	6	„	„
„ 6th „ 10th	„	38	„	„
„ 11th „ 40th	„	40	„	„
„ 41st „ 60th	„	44	„	„
Above the age of 60 years	„	46	„	„

Here again it will be seen that spontaneous elimination is most rare in the patients among whom intussusception is most common.

As to the period of time, in the course of the malady, at which it occurs, it has been observed at the end of the third and fourth days of the disease on the one hand, and as late as the sixth or seventh month on the other. The great bulk of the cases fall between the tenth and the thirtieth days of the affection.

Now, in over 40 per cent. of the subjects of spontaneous elimination, death follows from effects directly connected with the original lesion, or with the process of elimination. In some, the gangrene has led to rupture or perforation, or to an ulcer about the line of separation that has subsequently perforated. Others have succumbed to hemorrhage or to diarrhœa, or the gangrenous mass has blocked the intestine, or a portion of the intussusception left behind has led to a new and fatal invagination.

The mortality is much influenced by age, as the following table shows. In cases between the ages of 11 to 20 years, death, after spontaneous elimination, occurs in 28 per cent. of the cases. Between 21 and 40 years, it rises to 32 per cent.; and between 41 and 50, to 36 per cent. In patients between 51 and 60, the mortality is no less than 50 per cent.; while, in those over 60, it is 85 per cent. Thus the mortality is higher relatively at the very ages when spontaneous elimination is most common.

Spontaneous elimination, therefore, holds out somewhat delusive hopes, and affords but the feeblest support to the expectant treatment. If 100 cases of invagination be taken in children under 11 years of age, it may be safely reckoned that not more than 12 out of that number will be the subjects of spontaneous cure. Yet no fewer than 50 per cent. of all forms of invagination occur in patients of this age.

It may be noted that there is much evidence to support the belief that some intussusceptions, of short standing and of moderate degree, may reduce themselves, especially when the patient is under the influence of opium. The data, however, that are available in connection with this subject are not yet of a character to definitely affect any schemes for treatment.

The general mortality of intussusception is no less than 70 per cent. It is highest in the young; and in infants under one year the disease is exceedingly fatal. In over 60 per cent. of all fatal cases, death occurs before the seventh day.—*British Medical Journal. Jan.* 3, 1885, *p.* 7.

68.—ON THE TREATMENT OF INTUSSUSCEPTION.

By Fredk. Treves, F.R.C.S., Surgeon to the London Hospital.

The treatment of intussusception should be prompt and active, and no reliance is to be placed upon expectant measures. In dealing with the detailed treatment of intussusception, it will be most convenient to limit the matter to the treatment of the acute and subacute forms.

I think that, as the very first element in the treatment, opium should be given. It has been shown that intussusception depends upon disordered peristaltic movements in a limited segment of the bowel. This may be considered to have been proved by the remarkable experiments of Nothnagel for producing artificial invaginations in animals. Certain, at least, is it that the intussusception increases by the sole aid of the muscular movement in the bowel. Opium stills all peristaltic movements, and places the bowel in a condition of physiological rest. When a patient is under the influence of the drug, the intussusception cannot well increase in size, although the process of strangulation may still progress. The pain, moreover, is checked, the symptoms of shock are relieved, the pulse improves, the temperature rises, and the vomiting becomes less frequent and less distressing. There is, as I have already said, little doubt but that certain cases of intussusception have yielded to the early and vigorous use of opium, although, in such instances, but slight changes can have taken place in the intussusception. By the administration of the drug, moreover, the patient is placed in the most favourable possible position for the employment of further treatment. If attempts be made to reduce the invagination by enemata, the injections will be brought to bear upon a bowel whose walls are inert and not responsive to irritation. The enemata then excite no undue peristaltic movement, but can act with their full force upon the invaginated parts. Or, if, again, laparotomy be performed, the intestines will be found to be quiet and still, and not in a state of turbulent unrest. The drug must be given with caution, and its effects closely watched. It must not be forgotten that opium may mask the principal symptoms, and may bring about so great a relief that the surgeon may be misled into believing that a permanent cure has followed.

With regard to the question of feeding, no nourishment should be given by the mouth in acute cases. At the most, the patient may have a little ice to suck. In acute cases, the question of feeding does not really arise. If any treatment be adopted at all, it must be adopted early, and, before the question arises of keeping the patient alive with food, he will be either convalescent and well able to take nourishment, or on his way to death and beyond hope. Much harm is done by pressing food upon the patient in acute cases. The food is rejected almost as soon as it is swallowed. If retained in the stomach, it will not be digested; and if it pass into the bowel, it will merely excite peristaltic action. It can do no possible good; it may do much harm. If much thirst be complained of, it can be relieved by enemata of pure water; and in certain exceptional cases nutriment may be given by the rectum. In subacute cases, when the vomiting is not marked, small quantities of food must be administered by the mouth or by the rectum. In chronic cases, the feeding of the patient is one of the most important elements in the treatment.

The next element in the treatment consists in attempting to reduce the invagination by enemata. In acute cases, this measure should be adopted as soon as the patient is under the influence of opium. In a really acute case, no benefit can be expected to attend the use of enemata after—as an extreme period –the second day. Forcible enemata given at a later stage, in acute cases, have led to rupture of the bowel; and even when such an accident has not occurred, they have appeared to do little but harm. In subacute cases, successful reduction by injection has followed at almost any period of the disease, even after ten, fourteen, or twenty days have elapsed. With every day that passes, however, the chances of such reduction very rapidly diminish. In this treatment, some use enemata of water, and others insufflation of air. The former means is certainly to be preferred. In infants, and quite young children, the enema should be administered while the patient is under the influence of chloroform. In older subjects, no anæsthetic is required, and the patient's sensations are of the greatest value in estimating the amount of force to be employed. In any instance, opium should have been previously administered. Pure water should be used at a temperature of 99. Cold water merely excites peristaltic movement. The injection should be effected slowly, either by means of a siphon apparatus, or the very excellent instrument for air inflation, introduced by Mr. Lund. By means of the elastic pad and handle of the last named instrument, all escape of fluid from the anus can be well prevented.

No rules can be given to determine the amount of force to be employed. The more recent the case, the more considerable may it be. In subacute cases, the degree of pressure employed should be at least moderate. In any case, the injection should be retained for at least fifteen minutes. The best positions in which to administer the enema are the knee and head, knee and elbow, or lateral abdominal. It is difficult to understand how inversion of the patient can be of the least assistance in applying this treatment. For an inflation, there is no instrument so admirable as that introduced by Mr. Lund.

Enemata of carbonic acid in these cases are, I think, to be decidedly condemned. A considerable degree of success has attended the treatment by enemata and air-insufflation; and it is probable that the results would be still more fortunate if more careful discrimination were exercised in the selection of cases suitable for these methods. In not a few instances, the invagination has been reduced, with the exception of the part about the neck. Some relief has followed for a while such partial reductions; but it has been temporary, and the disease has progressed, after an interval, with its original force. As the result of this treatment is best to be estimated by a repeated examination of the invagination-tumour, it may be observed that such a tumour is to be discovered, either through the abdominal parietes or the rectum, in nearly 50 per cent. of all the cases. It is most common in the ileo-cæcal and the colic forms; most rare in the ileo-colic and enteric. It is usually more distinct in children than in adults.

Failing reduction by these means, I would urge that, in acute and subacute cases, laparotomy should be performed without delay. It is the delay, and not the operation, that is so serious in these cases. As well might a surgeon hesitate to perform kelotomy in a case of strangulated hernia after all attempts at taxis have failed. Laparotomy is regarded as a last resort in these cases, whereas it should be looked upon as almost the first resort. There is no middle course open. Of certain other modes of treatment, such as that by massage, electricity, the use of metallic mercury in large doses, it can only be said that they waste precious time, and are merely useless when not harmful. Their employment is in opposition to the chief teachings to be derived from a study of the pathology of the disease. Modern surgery has shown that the opening of the abdomen is by no means a serious undertaking; and in discussing laparotomy in these cases, there is this operation on the one hand, and a disease with a mortality of 70 per cent. on the other. I have pointed out how slender are the prospects of spontaneous cure. Still more slender are the prospects of the acute or the subacute disease becoming chronic. It is only in a very small percentage of cases that this change from acute to chronic disease has been noticed; and it must, moreover, be remembered that the mortality of chronic intussusception is exceedingly high. Among 59 examples of the chronic disease collected by Rafinesque, there were no fewer than 51 deaths. It is true that the present mortality after laparotomy in intussusception is very high; but it can be shown distinctly that this is due to the delay in the operation, to the custom of regarding it as a last and desperate resource. A like high mortality would attend ovariotomy if that proceeding were, as a rule, postponed until peritonitis had set in, or until the cyst had become gangrenous, or had ruptured.

When it is remembered that, of those who die of intussusception, no fewer than 80 per cent. die before the seventh day, it will be obvious that the surgeon is dealing with a disease that will not brook much delay.

I would urge that, in really acute cases, the operation should be performed within the first forty-eight hours, and, if possible, within the first twenty-four hours, when the patient is an infant or a very young child. The frightful mortality of the disease among such patients would sanction almost any operation.

The procedure, when undertaken, should be carried out with strict antiseptic precautions. In all but exceptional cases, the incision is most conveniently made in the middle line below the umbilicus. The whole area of the abdomen can be well explored through such an incision, and any form of invagination dealt with. If the incision be made over a tumour at any other part than the middle line, the surgeon is rendering himself dependent upon a very precise diagnosis, and, in cases of extensive invagination, may find his manipulations much hampered by the position of the wound. The intussuscepted mass should be, as far as possible, exposed in the wound, and attempts at reduction made in cases where the state of the gut would encourage such attempts. Reduction of the invagination is best effected by dragging upon the entering bowel with one hand, while the intestine about the lower end of the intussusception is gently squeezed with the other. If the bowel be found to be in a viable condition after reduction, the coil may be replaced in the abdomen, and the parietal wound closed. I am strongly of opinion that a drain should be introduced into the abdominal cavity when any evidences of more than limited peritoneal inflammation exist. The principal feature of the after-treatment should be the maintaining of perfect rest in the bowel—an end effected by the administration of opium, and by feeding the patient, as far as possible, by the rectum only.

The general mortality of laparotomy in intussusception is 72·7 per cent., as estimated from 33 recorded cases. In the instances, however, where the reduction was easy, the death-rate was only 30 per cent.; while, in the cases where it was difficult or impossible, the mortality was 91·3 per cent.

It is difficult to too strongly condemn violent and long-continued attempts at reduction in these cases; and it is needless to criticise certain cases in which a portion of gangrenous bowel has been allowed to remain in the abdomen after the operation. Should the reduction of the invagination be difficult or impossible, or should the bowel be severely damaged, or in a state of partial or complete gangrene, the whole of the involved parts should be at once resected. The involved segment should be drawn out of the wound, and placed upon a flat sponge, so that any escaped matters may be absorbed. The opening into the abdomen also, all around the involved loop, should be plugged with sponges, to prevent the entrance of fæcal matter into the peritoneal cavity. The intestine, above and below the part to be resected, should then be secured by one of the many clamps invented for the purpose. The diseased bowel should now be excised, together with a triangular piece of the mesentery, the base of the triangle corresponding to the portion of bowel to be removed. The mesenteric arteries will need to be secured. The edges of the gap in the mesentery should then be approximated by means of many points of minute suture; and, finally, the divided ends of the bowel should be secured to the margins of the abdominal wound, and an artificial anus established. This artificial anus can, at a future time, be closed by the now familiar resection operation, and the loop, so united, returned into the abdomen. The practice of uniting the divided ends of the bowel, immediately after the resection, is, for many very pressing reasons, to be condemned.

It may be well to point out that neither enterotomy nor colotomy can lay claim to be of value in the treatment of non-exceptional cases of intussusception. These operations certainly relieve the obstruction; but they leave in the abdomen an invaginated intestine, in which the process of inflammation and gangrene can still advance.

The operation of resection has now had an extended trial. Reichel, in a recent paper, collected one hundred and twenty-one cases in which the procedure was carried out. The technical details of the operation have been elaborated, and this method of treatment bids fair to play an important part in the future of abdominal surgery.—*British Medical Journal, Jan.* 3, 1885, *p.* 7.

69.—ON THE PNEUMATIC ASPIRATOR AS A MEANS OF DIAGNOSIS OF ABDOMINAL AND OTHER TUMOURS.

By F. Bowreman Jessett, F.R.C.S., London.

Perhaps there is no part of the body in which the aspirator may be used with so great advantage as in the abdomen, for the purpose of diagnosing tumours, &c. Patients often present themselves with hard, perhaps small, tumours of the liver, and it is difficult to determine whether they are abscesses, hydatid cysts, or malignant growths; the use of the aspirator at once sets the question at rest. In a case reported by Dr. Laffan, a patient, a hard drinker, presented all the symptoms of abscess of the liver. To decide the question, he determined to introduce Dieulafoy's aspirator, which he did in six different places, with a negative result; thus the diagnosis of abscess was proved to be incorrect.

Mr. T. Pridgin Teale relates a somewhat similar case, in which he was called to examine an abdominal tumour. A large, apparently solid tumour, of uneven surface, in which fluctuation could not be detected, filled the lower part of the abdomen. Seeing that the tumour, if ovarian and non-malignant, was probably polycystic, he introduced the needle of the aspirator, first in one prominent part and then in another, and drew off, in the first instance, an ounce of tinted viscid fluid, and in the second, clear limpid fluid. Thus was proved the existence of a multiple cystic disease of the ovary.

Another case, occurring in my own practice some time since, that illustrates this well, was that of a very fat woman, who had a tumour in her abdomen of the size of a large cocoa-nut. I diagnosed ovarian tumour. Another surgeon who saw her thought it was a fibroid; I decided to introduce the aspirating needle, and so decide the question, which was done, with the result of withdrawing a quantity of characteristic ovarian fluid. I operated upon the woman, removed an ovarian tumour, and she made a good recovery.

It is often very difficult to determine the character of tumours connected with the ovary and uterus; and here the aspirator is of the greatest possible service, and I cannot help thinking that, if it were more frequently used, there would not be the occasion for so many exploratory abdominal sections.

Then, again, in obstruction of the bowels, frequently it is most difficult to determine where the obstruction is. If the obstruction be solely situated in the rectum, or lower part of the sigmoid flexure, and if it be of such an urgent character as to demand immediate relief to the patient by opening the colon in either the right or the left loin, or in the sigmoid flexure itself, here the aspirator is of great service; as if, in thrusting the needle into the descending colon, no flatus or liquid fæces escape, you may fairly draw the inference that the disease extends higher than the point at which the needle was inserted; on thrusting the needle again into the ascending colon, if flatus and liquid fæces do escape, then we know that the disease is situated lower down. In such a case, the surgeon would be saved the mortification of cutting down on and opening a portion of the gut that is already invaded by disease, a circumstance which would enforce his performing a second operation on the opposite side, and so increasing the danger to the patient's life very materially.

A case of a lady who had been under the care of one of our most illustrious London physicians for supposed cancer of the liver, is one in which, if the aspirator had been used, all doubt would have at once been dispelled. When she came under my care, she was apparently within a few hours of her end; she had a large tumour, extending from the right iliac fossa, occupying the whole right iliac and hypochondriac regions, extending forwards over the epigastrium, and occupying the greater part of the left hypochondriac region. The tumour was hard, smooth, and tender. The patient was suffering from vomiting, and, when I saw her in a state of collapse. The bowels had been open, with slight liquid fæces. I immediately suggested that the physician under whom she had been should see her, which he did the same evening. He then told me our patient had cancer of the liver, and would die in the course of twenty-four hours; at the end of that time, however, she was alive, and another physician was called, who corroborated in every particular the diagnosis of the former physician. I asked him if he had any objection to my giving large enemata, as I had an idea the patient was suffering from a loaded colon. He gave his consent; and, in less than a week, the tumour had all disappeared, and the patient is now alive and well.

I mention this case as one in which, if the physician she first consulted had inserted an aspirating needle, all doubt as to the nature of the tumour would have been settled long before it was, and the patient would have been treated for the disease from which she really was suffering, and her life would not have been imperilled.

A short time ago, I saw a case of a girl with angular curvature of the spine, and a good deal of pain in her abdomen, extending to her left thigh. On deep pressure, there was found to be a very decided fulness down the left side of the spine, apparently along the sheath of the psoas and iliacus muscles, but no fluctuation was discernible. I introduced the needle of the aspirator into the swelling, and withdrew a large quantity of pus. The pus, however, quickly reformed, and I then made a free opening into the abscess, in a line with Poupart's ligament, and washed the cavity out, inserting a large drainage-tube. Had I, in this instance, had a sufficiently large cannula, I am convinced I could have withdrawn the whole of the thick curdy pus that I removed by the second operation.

These cases could be multiplied to any extent, and I venture to think that there are very few of you but have witnessed such cases as I have mentioned.—*British Medical Journal, Nov.* 1, 1884, *p.* 851.

70.—ON THE SUCCESSFUL REMOVAL OF THE LOWER RECTUM FOR CANCER.

By the EDITOR OF THE LANCET.

Dr. Niccolino Nieri reports the history of a case which illustrates in a marked degree the advantages of direct surgical intervention for the relief of cancer of the lower bowel. C.S——, aged sixty-one, born at Scorticata in Romagna, is of sound parentage and constitution, and the mother of eight healthy children. She first felt a sense of weight and occasional lancinating pain in the rectum last January. Defecation became frequent and painful, and blood was mingled with the evacuations. The pain increased, and radiated into the loins and into the right and left hypochondria; defecation became more difficult, and a yellowish sanious discharge issued continuously from the anus. Emaciation progressed; the increasing pain caused sleepless nights; the motions passed were thin; tympanites developed; and a tumour, due to accumulated fæcal matter, was felt in the left flank. By digital examination, Dr. Nieri ascertained the existence in the lower third of the rectum of a hard, irregularly shaped tumour, ulcerated in some parts, and almost completely surrounding the gut. Regarding it as of a cancerous nature, he advised extirpation, which was performed on the 23rd of August last, while the patient was in the lithotomy position and under the influence of bichloride of methylene. Two semicircular incisions were made, about an inch and a quarter from the margins of the anus, and extending to the rectum, which was dissected for some distance from below upwards; then with the right index finger the intestine was detached for a space of five inches and drawn down; some loops of thread passed through it, above the diseased portion, kept the gut immovable during the process of severance by the galvanic cautery. The edge of the gut was now carefully secured by sutures to the skin, a drainage-tube inserted, an antiseptic dressing applied, and the patient replaced in bed, still in a state of insensibility. The loss of blood was slight, and few vessels were tied during the operation, which lasted an hour and three-quarters. Severe symptoms of shock followed, with very rapid pulse, clammy and livid face, cold extremities, and occasional vomiting. These symptoms yielded, in about an hour, to two hypodermic injections of musk, warm frictions, hot bottles to the feet, and brandy by the mouth. Six hours after the operation the temperature was 100° and the pulse 88. With the exception of some lumbar pain and sleeplessness, the patient passed a fairly tranquil night. Next morning the urine was drawn off by a catheter and the dressing changed; the temperature was 100·4° and the pulse 101. The bowels acted the same evening without any trouble. On Aug. 25th the temperature was 99° and the pulse 116. On changing the dressing a little pus was seen at the end of the drainage-tube. Irrigation with 3 per cent. carbolised water was repeated three times daily during the next fortnight, the temperature remaining all the time about normal, and the pulse ranging between 110 and 116. At the end of three weeks from the operation the patient might be considered as cured, the wound being healed, the urine and fæces voided naturally, and no febrile symptoms present. But a sharp attack of bronchitis, due to imprudent exposure, prevented the patient's return home until Oct. 10th, seven weeks after the operation. On examining the fundament just previously, the rectum was seen drawn up and much contracted, apparently realising Chassaignac's description of "sphincterisation," or formation of a new sphincter, which he observed after removal of cancer of the rectum with the écraseur (*écrasement linéaire*). On microscopic examination of Dr. Nieri's specimen, it exhibited the appearances of malignancy. The operator has added to the interest of his narrative by recalling a few facts connected with operations for the removal of cancer of the rectum. It was first practised, and that successfully, by Faget on June 30th, 1763. Lisfranc revived the procedure in 1826. His first three cases were successful; but, of his subsequent six cases, only two recovered perfectly, in one the result was uncertain, and three succumbed in periods varying from twenty-four hours to twenty-five days after the operation. Velpeau, in six similar operations, had three recoveries and three deaths; while Rizzoli is reported to have performed the operation four times with uniformly good result. Nélaton had several deaths after it; but Czerny is credited with only one death in twenty-five operations (nine without recurrence) during the last seven years (Bellage in Centralblatt für Chirurgie, No. 20).—*Lancet, Jan.* 3, 1885, *p.* 27.

71.—ON HERNIA OF THE VERMIFORM APPENDIX.

By N. Davies Colley, M.C., Surgeon to Guy's Hospital.

[We omit the details of the four following cases which are reported in Mr. Davies Colley's paper.]

Case 1.—Right femoral hernia containing appendix vermiformis; strangulation; herniotomy; recovery.

Case 2.—Strangulated inguinal hernia; partial reduction; operation; removal of appendix cæci and omentum; peritonitis; death.

Case 3.—Strangulation of the appendix vermiformis in an infant; recovery with fæcal fistula.

ase 4.—Strangulated right femoral hernia containing vermiform appendix; operation; ligature and removal of gangrenous appendix; recovery.

[In addition to these four cases, all of which were admitted into Guy's Hospital during the four years just ended, Mr. Davies-Colley refers to cases reported by Mr. Pick (Lancet, vol. i., 1880, p. 801); Mr. Court (Lancet, vol. ii., 1870, p. 401); Dieffenbach (Op. Surgery, vol. ii., p. 600); and some others, making, in all, nine cases. The author then proceeds to observe:]

Judging from the cases which I have reported and quoted, I think we may gather the following facts with respect to the strangulation and incarceration of the appendix vermiformis:

1. The appendix vermiformis may form the sole contents of an inguinal or femoral hernia of the right side.

2. When strangulated alone in the sac, it may give rise to all the symptoms of acute strangulation of the intestine, as in Case 4 and that related by Mr. Court, or, on the other hand, as in Case 1 and that of the gentleman operated upon by Dieffenbach, the symptom of constipation may be absent.

3. If this strangulation is left unrelieved, acute inflammation with suppuration, sloughing, and perforation may follow, and this

inflammation, as in Mr. Pick's case, may cause acute peritonitis and be fatal; or, as in Mr. Durham's case, the patient may recover after operation with a fæcal fistula.

4. The appendix may be incarcerated in an old hernia, and may become adherent to the walls of the sac. Here it may remain for many years without producing any serious symptom. It may then, as in Mr. De Morgan's case, become the site of ulceration from the lodgment of foreign bodies, and so set up suppuration in the hernial sac; or, as in Case 2, it may be injured by taxis or a truss, or by the pressure of portions of the bowel or omentum which have descended into the sac. Severe inflammation and great swelling may thus be set up in the process and the parts adjacent. Lastly, as in the singular case under Professor Billroth, some cystiform change may take place in the incarcerated appendix, and, by its great tension, set up all the symptoms of acute strangulation.

With respect to treatment, when we have to deal with small herniæ of the right side, whether inguinal or femoral, accompanied by vomiting, local pain, &c., it is well to bear in mind the possibility of the appendix being the only structure contained in the sac. We should then proceed to operate without delay, even though one of the chief signs of strangulation, such as constipation, should be absent. If, on the other hand, we should have to operate upon a patient in whom from long incarceration the appendix has become adherent, Mr. Court's case shows that these adhesions may be sometimes divided, and the protrusion successfully returned. But when the appendix is much inflamed and suppurating as well as adherent, it is more difficult to decide upon the proper course to be pursued. If left in the sac it will probably be a source of continual irritation. Prolonged suppuration may follow, and even when this does not occur, it will interfere with the application of a truss, at the same time that it will keep open a passage for the descent of other portions of the intestine and omentum. I am therefore disposed to recommend that if it cannot safely be replaced within the abdomen, it should be ligatured and removed, as was done by myself in Case 2, and more successfully by Mr. Lucas in Case 4.—*Guy's Hospital Reports,* 1884, *p.* 429.

72.—CUCAINE AS A LOCAL ANÆSTHETIC IN OPERATION ON HEMORRHOIDS.

By F. Swinford Edwards, F.R.C.S., London.

A woman, aged 50, suffering from hemorrhoids, was sent to me, at the West London Hospital, by Dr. Campbell Pope. As she was the subject of both aortic and mitral disease, it was a question whether she ought to undergo any operation, ether and chloroform being inadmissible. I determined to try the effect of cucaine as a local anæsthetic, having recently assisted at an operation where, after the injection of a solution of cucaine into the urethra and bladder, rapid lithotrity was performed painlessly.

On Tuesday last, January 27th, I injected one minim of a four per cent. solution into each pile, of which there were six large ones, at the junction of the skin and mucous membrane. Each pile was then carefully painted over, four or five times, with the same solution. Without any delay, the piles were ligatured *seriatim*, Salmon's scissors being used to separate the hemorrhoids from the anal margin. The operation, which lasted twelve minutes, was painless, the patient feeling only the last cut. This was as bad a case of hemorrhoids as any I have seen, and, as such, was a severe test for cucaine, of which the amount used was five-and-twenty minims.

It seems to me that cucaine, which, by-the-by, should not be kept too long in solution before using it, must take the place of ether-inhalation in many operations on the urethra and rectum.—*British Medical Journal, Jan.* 31, 1885, *p.* 227.

73.—ON RECTO-VESICAL FISTULA AND ITS TREATMENT BY COLOTOMY.

By Professor Duménil, Rouen.

[In the Revue de Chirurgie for April, 1884, the author reports a case of recto-vesical fistula in which colotomy was performed, but with a fatal result. He then proceeds to review twelve other cases of a similar nature, as follows:]

Vesico-intestinal fistula, in most cases, causes death through exhaustion or extension of disease to the whole of the urinary apparatus. Cases are very rare in which the subject of such lesion has survived for any length of time. The gravity of the abnormal condition, and the rapidity of its evolution, will depend on the width and situation of the fistula, and the facility afforded to the passage of urine and fæcal matter. The existence of a fistula of this kind is incompatible not only with a long life, but also with any tolerable life. Several cases have been recorded of the spontaneous cure of a vesico-intestinal fistula. In most of the instances the symptoms indicated a small opening. It is important, before deciding on colotomy, to determine the seat of the intestinal orifice. In a large majority of cases it has been found in the rectum or the sigmoid flexure. The diagnosis will generally be facilitated by the history as to the origin of the disease affection, by the appearance of the fæcal matter contained in the urine, and by exploration of the organs. When the opening is situated low down, an examination may lead to the discovery of its seat. The injection of coloured fluid into the bladder may, it is suggested, render service in this respect. It is thought that in doubtful cases the proof of the existence of a communication between the bladder and the extremity of the intestine may be obtained by injecting a weak solution of yellow prussiate of potash into the rectum, and one of perchloride of iron into the vesical cavity. If there be a fistula between these organs, the characteristic reaction of these agents may be observed. In seven of the thirteen cases, colotomy was successful. There is often a tendency, however, even in the most satisfactory cases, to an occasional discharge of fæcal matter into the bladder. With regard to any attempt to close the orifice of the peripheral portion of the intestine, the author holds that such proceeding is likely to compromise the result of the colotomy. In conclusion, Professor Duménil states that, though colotomy, applied to the treatment of vesico-intestinal fistulæ, has hitherto afforded only the results of a palliative treatment, it constitutes a precious resource, which is capable of prolonging to a considerable extent the existence of patients, with a very tolerable infirmity. It is still to be anticipated that the operation, either by itself or associated with other means, may, in favourable cases, bring about a radical cure.—(Reported by W. Johnson Smith.)—*London Medical Record, Nov.,* 1884, *p.* 475.

ORGANS OF URINE AND GENERATION.

74.—A CASE OF SUPRA-PUBIC OPERATION (PETERSEN'S METHOD) FOR LARGE STONE IN THE BLADDER.

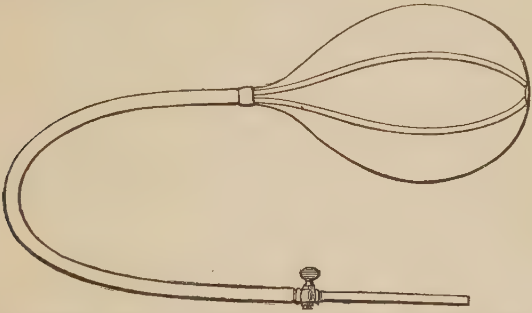
By Sir H. Thompson, Surg.-Ext. to H.M. the King of the Belgians;
Professor of Surg. and Path., Royal College of Surgeons;
Consulting Surg. to University College Hospital.

At the close of my final lecture at the Royal College of Surgeons in June last, I stated that I had successfully dealt with uric-acid calculi up to three ounces in weight, by means of lithotrity, at a single sitting, although I by no means asserted that all such calculi were amenable to the crushing operation. And after discussing the methods which might be resorted to when, owing to the size of the calculus, lithotrity was inadequate or unadvisable, I stated that, for my own part, "I should almost certainly submit the next case for which the knife is required to the high operation with Petersen's modification."

Not a week had elapsed from the date of that observation before the following case presented itself.

A gentleman, aged thirty-six, formerly under the care of my friend, Dr. William Roberts, of Manchester, who had observed continuous and large deposits of cystine in the urine for some time, came to me with severe symptoms of calculus in the bladder on June 18th last. On sounding, I immediately struck a large stone, and advised lithotrity without delay.

June 19th.—I attempted, under ether, to seize a large, hard, and rather rounded mass, but it escaped the grasp of my largest lithotrite. Dr. Caspar, of Berlin, and Dr. Pinter, of Buda Pesth, were present. After devoting three or four minutes to the careful examination of the calculus, both by the bladder and rectum, I determined to wait a day or two, and then to perform the supra-pubic operation. The patient had fever after this, which was unusually prolonged, and nearly a fortnight elapsed before I considered him in a fit state for operation.



A representation of the bag, which must be made in separate gores of stiff white india-rubber to ensure firmness. A soft collapsible bag does not accomplish the purpose required.

July 2nd.—Mr. Moss gave ether; the gentlemen above named were present. I commenced by injecting about nine or ten ounces of a weak solution of boracic acid in water into the bladder, and, tying the penis firmly with a vulcanised catheter, I then introduced the pear-shaped india-rubber bag (see fig.), folded longitudinally, into the rectum, distending it gradually with water from a large syringe until about twelve ounces had entered, when the stopcock was turned. On percussing the lower part of the abdomen, it was obvious that the bladder was now occupying the supra-pubic region, a rounded mass corresponding thereto being very clearly defined. I made the usual longitudinal incision about three or three and a half inches long in the median line, the lowest point of it reaching to the front aspect of the upper margin of the symphysis, carrying the dissection through the soft tissues down to the linea alba; then dividing on a director that structure itself, also the fibrous attachments of the recti muscles to the symphysis for nearly half an inch laterally on each side of the opening. The yellow fat covering the bladder then came into view, and this I divided solely with the index-finger and forceps. Scraping in a direction upwards with the nail of my right index-finger, and hooking up all the tissues therewith into the upper angle of the wound, it was easy to verify beneath my finger the distended bladder, the surface of which had thus been cleared. No artery had been divided, and a vein or two in the fat had been drawn aside, so that, contrary to what is usually met with in elderly patients, in whom the veins here are often large and liable to cause considerable difficulty by free hemorrhage, almost no blood had been seen. Inserting a well-curved hook into the bladder, and thus giving issue to a little of the injected solution, I incised its coats sufficiently to admit my finger, when I felt lying there directly beneath it a large calculus, the position of which was, topographically considered, abdominal, and not pelvic. It was now a simple matter to enlarge the incision and remove the stone with a pair of small forceps and my finger, my friend, Mr. G. B. Browne, taking care to maintain the sides of the bladder in place by hook and spatula. I then untied the ligature on the penis and allowed the urine to flow from the rectal bag, inserting a No. 12 gum catheter and fastening it in the urethra, after which I placed a large vulcanised tube five inches long (with a single lateral aperture only, close to the terminal one) deep in the bladder, so as to ensure free drainage, and removed the bag from the rectum, completing the proceeding.

I laid the patient on his side, well supporting him in that position by numerous pillows at his back and between the legs. For I think this position an important element in the after-treatment, since it facilitates the drainage and enables the attendants to keep him dry. He should be changed once daily from the right to the left side, and *vice versâ*. The tube was removed from the bladder on the fifth day, the catheter on the sixth. The first urine passed naturally by the penis was on July 17th, the fifteenth day after the operation.

July 19th.—He had severe secondary hemorrhage from an arterial source rather deep in the wound, which happily was efficiently stopped by a ligature within a few minutes of the occurrence; otherwise the result might have been very grave. As it was, the loss of blood was considerable. He then gradually regained strength until July 29th, when, without known cause, an attack of epididymitis in the left side set in, and again reduced him.

Aug. 8th.—He begins to sit up; passes much urine by natural passage; the wound is fast contracting.—16th: Has walked out of doors for the first time.—20th: Wound closed; holds urine three hours; appetite good; recovering strength fast; returned home on the 24th, and bore his journey to the north well.

The calculus proved to be cystic oxide throughout, was of a rounded oval form, and weighed two ounces and three-quarters.

I heard in September from Dr. Roberts that he had seen the patient, that his condition was quite satisfactory, and that no cystine was at present observable in his urine.

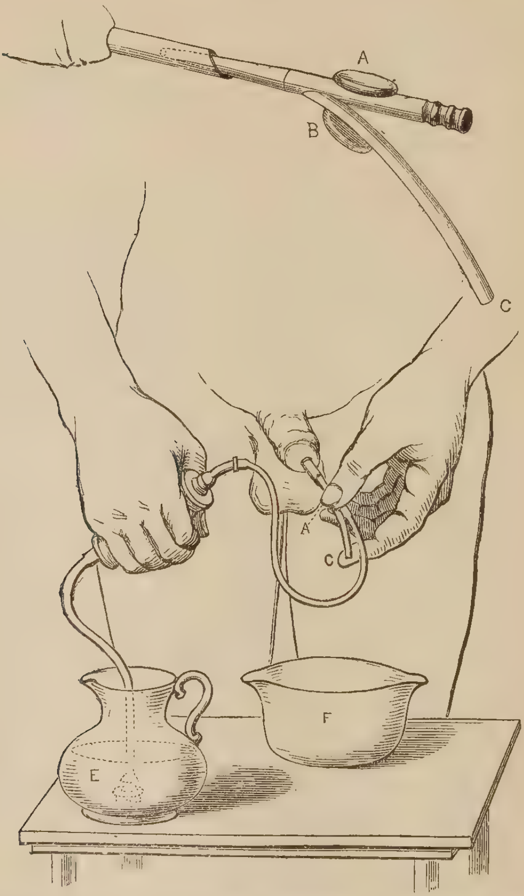
I shall make no remarks here on the history and nature of the operation. Nor is it necessary to add anything respecting the mode of performing it, as I have been careful to point out all the important practical details necessary to be attended to in describing the procedure above. I shall merely add that, having performed the supra-pubic operation by the old method, on the staff, and without preliminary injection of the bladder and rectum, I have no hesitation in regarding the method here described as greatly superior, contributing as it does in no small degree to the safety of the peritoneum, as well as to the ease with which the stone is extracted.—*Lancet, Oct.* 11, 1884, *p.* 629.

75.—A SIMPLE METHOD OF WASHING OUT THE BLADDER.

By G. Buckston Browne, M.R.C.S.Eng., London.

In the treatment of various diseases of the urinary organs, it is often necessary to teach a patient to wash out the bladder. As a rule he is elderly and not very skilful, and consequently the apparatus put into his hands should be of a simple kind. In all the instruments hitherto designed there are taps to turn, and the injecting nozzle has to be constantly connected with the catheter and disconnected; hence they all lack the element of extreme simplicity; moreover, none of these movements can be made without shifting the catheter more or less, and this is very undesirable in a tender and perhaps inflamed bladder.

In February of this year Dr. Wm. Job Collins published in the Lancet a description of a two-way tap, furnished with two stopcocks, and intended to be fixed to an ordinary Higginson's enema syringe. This excellent contrivance at once suggested to my mind the following arrangement, in which all stopcocks are done away with, and by which washing out the bladder is made as uncomplicated as possible. The accompanying figure will for the most part explain itself. A B C D is simply a bifurcated brass tube without valve or stopcock. The end, D, is fixed to a Higginson's syringe. At A and B are discs to support (in self-use) the left thumb and second finger, the left forefinger being free to alternately close and leave open the orifice of the efferent tube at C. The jug, E, contains any bladder wash prescribed by the surgeon, and the enema apparatus is filled with it in the usual way, so that all air is expelled. The catheter is then passed, and when urine ceases to flow the nozzle is introduced into the end of the catheter. The left forefinger is firmly applied to the orifice at C, and two ounces of injection are gently introduced into the bladder by squeezing the ball in the right hand. The left forefinger is then raised, and the fluid issues from the bladder, while the right hand relaxes its pressure and allows the bulb to draw up a fresh supply of fluid. This process can be repeated as often as is desired, without trouble to the patient or disturbance of the catheter. In practice, I have found this simple apparatus prove of great service to patients suffering from atony of the bladder or prostatic disease, when



washing out the bladder has been indicated. The brass nozzle is made by Messrs. Weiss and Son.—*Lancet, Oct.* 18, 1884, *p.* 675.

76.—ON TUBERCULAR CYSTITIS.

By M. TERILLON, Surgeon to the Salpetrière, Paris.

Tubercular cystitis may manifest itself in three different ways. In the most common form, the testicle is the part primarily attacked by tubercle; this is frequently followed by suppuration, and after a time the prostate and vesiculæ seminales become similarly affected; eventually the disease spreads further onwards, involving next the bladder and then the kidneys. Under these circumstances, the affection is very slow in its course, often continuing for as long as ten or fifteen years. In the second form, the bladder is first involved; the prostate and kidneys may afterwards become affected, but the testicles usually escape. In the third form, the implication of the genito-urinary organs is secondary to the development of tubercle in the lungs.

When the bladder becomes affected, deposits of tubercle occur in its mucous lining, especially about the trigone; these, after a time, softening and breaking down, are succeeded by distinct ulcerations with punched-out edges, which, when they remain separate from one another, are usually of small size and often very numerous; in other cases they run together, and, becoming confluent, form ulcers of considerable dimensions, *e.g.*, as large as the palm of the hand. The muscular coat subsequently becomes thickened from inflammation, and at the same time contracts, so that the capacity of the bladder is often considerably diminished; occasionally perforation of its walls ensues, and, under these circumstances, secondary abscesses may form in its vicinity.

One of the earliest evidences of tubercular cystitis is slight hæmaturia, the blood coming from the mucous lining of the bladder, and in many cases this continues for a considerable period, sometimes for several years, before the more severe symptoms manifest themselves. Sooner or later, severe pain is usually felt, but it differs from that met with in cases of cystitis due to calculus, inasmuch as it is almost constantly present, not being relieved by rest or sleep.

Micturition is increased in frequency, and accompanied by tenesmus and a burning sensation, owing to the fact that the trigone is the part of the bladder which is usually the chief seat of ulceration; the urine contains pus, and the deposit is more flocculent and less of a gelatinous character than is usually met with in cases of chronic cystitis due to other causes.

The position of the patient is often characteristic. He frequently lies crouched up in bed, so as to relax the abdominal muscles, for in this way, by taking all pressure off the bladder, slight relief is often obtained.

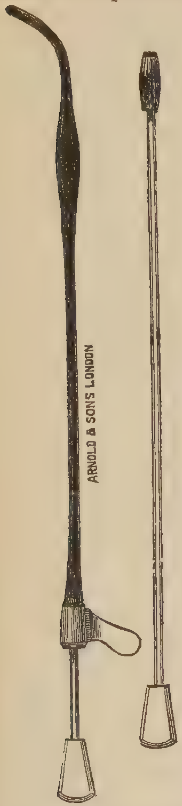
The prognosis is always very unfavourable, most cases eventually terminating fatally, either from the local affection, or occasionally, if the kidneys become affected, from the supervention of uræmia. Unfortunately very little can be done in the way of treatment. Washing out the bladder with some anodyne solution, suppositories, fomentations, etc., sometimes afford slight relief; but in most instances the severe pain, which is doubtless due to the constant irritation of the urine as it flows over the ulcerated surfaces, continues unabated, and it is the very intractable nature of this symptom which in many cases of painful cystitis is of assistance in helping us to recognise the tubercular origin of the affection. (Reported by Mr. Southam.)—*Medical Chronicle, Dec.* 1884, *p.* 284.

77.—ON A NEW FORM OF DILATOR FOR STRICTURE OF THE URETHRA.

By W. J. Walsham, F.R.C.S.Eng., Assistant-Surgeon to, and Demonstrator of Practical Surgery at, St. Bartholomew's Hospital, London.

This new form of dilator, which is made by Messrs. Arnold and Sons, of West Smithfield, may for the purpose of better describing it be said to consist of four parts: 1. A central solid steel staff or director, the size of a No. 1 catheter (English gauge). 2. An arrangement around this of a dozen or so of thin steel ribs, welded together at their distal ends, so as to form with the end of the central staff the curved extremity of the instrument; and inserted at their proximal ends at a distance of one-sixteenth of an inch apart into a metal ring, the size of a No. 14 catheter (English gauge). This ring is provided with a short flattened handle, to indicate the direction of the point of the instrument. 3. A series of bulbous-ended hollow rods of graduated sizes for sliding over the central staff. The bulbous extremities are grooved longitudinally, the number of grooves corresponding to the number of wires surrounding the central staff. When one of the hollow rods is slipped over the central staff, the grooves in the bulbous end slide along under the wires, separating them from one another, and expanding the instrument to the size of the bulb as the hollow rod is pushed home. 4. A long conical india-rubber sheath, which fits closely over the wire ribs, keeping them in contact with one another and with the central staff, and so rendering the instrument (when not expanded) to all intents and purposes a solid bougie.

On passing one of the dilating rods the wires are separated by the bulb; but the instrument, unlike some others, is expanded. not through its whole extent, but only at the situation at which the bulb may happen to be as it travels along the central stem. The india-rubber covering ensures expansion of the wires in all directions equally, and prevents the mucous membrane of the urethra from being caught between them when the dilating rods or the whole instrument is withdrawn. After use the sheath can be readily removed from the wires and cleansed by immersion in some antiseptic fluid, or, as it costs but a mere trifle, a fresh one can be used on each occasion if thought more desirable. In using the instrument, the rod with the smallest bulb should first be passed, and then successively one with a larger and larger bulb till the tissues composing the strictures have been thoroughly stretched, and the urethra in its proximity has been dilated a size or two beyond its normal diameter. Each rod should be passed very slowly (not thrust violently home, as in using a Holt's dilator), so as to stretch rather than to tear the tissues forming the stricture. If this is done, no deep laceration of the urethra need be produced, and very little, if any, bleeding will follow the withdrawal of the instrument.



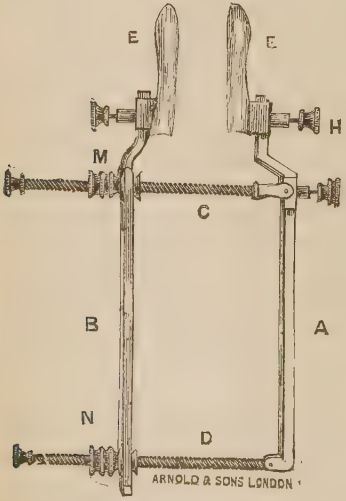
The advantages of this dilator are, (1) that as the bulb is pushed home the wires are expanded immediately in front of it in the form of a conical wedge, so that the stricture is gradually stretched, and not suddenly ruptured, as happens in the use of some so-called dilators; (2) that the expansion of the instrument takes place equally in the whole of its circumference; (3) that the india-rubber sheath renders it exceedingly soft and non-irritating, and prevents the mucous membrane of the urethra from being caught on withdrawing the instrument; (4) that as the steel parts of the dilator are entirely covered by the india-rubber sheath, they are preserved clean and dry, thus dispensing with the tedious cleaning otherwise required; and, as a new sheath can be used on each occasion, all danger of septic infection is avoided.

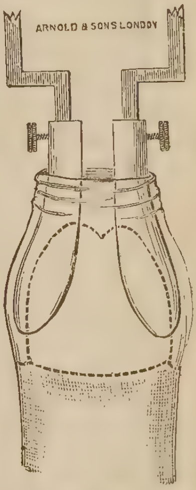
I am not advocating the treatment of stricture of the urethra by means of dilating instruments, such as the above, in ordinary cases, as against the well-known methods in daily use; there are, however, exceptional cases in which treatment by means of dilators is indicated, and for such I believe the present instrument will be found to answer the purpose better than any other with which I am acquainted.—*Lancet, Dec.* 20, 1884, *p.* 1088.

78.—TREATMENT OF PHIMOSIS WITHOUT OPERATION

By W. Stephenson Richmond, St. Bartholomew's Hospital, London.

The only method of treating phimosis, in common practice, is by operation. There are, however, a great many patients suffering from this malady who absolutely refuse to undergo any operation for its relief. Numbers of cases are constantly presenting themselves of men considerably advanced in years who have never been able to get their foreskins back, and have consequently suffered continually from discharges attributable solely to the irritation attendant on this condition. Yet many such patients will rather pass their lives with the inconvenience and risk which this state of things involves than submit to the knife. There can, however, be only one other possible means of treating phimosis, and that is by stretching the prepuce. But this method appears to be very seldom put into practice, for when it is tried it generally results in failure. I can see no reason, however, why the skin and mucous membrane surrounding the glans penis should not be as freely dilatable as in other parts of the body. The reason of the failure, I take it, is simply this—that no proper instrument has been invented for the purpose.





Extemporised instruments, such as dressing-forceps, blunted hooks, &c., are utterly useless for the purpose. Take dressing-forceps, for instance. It is impossible to insert them into a very small prepuce. If the blades be inserted open, one may be passed through the prepuce and down between the glans and foreskin, but it is impossible to get the other blade in. If the forceps be introduced with the blades closed, they immediately impinge upon the glans and will go no farther. Even if they could be successfully introduced through the prepuce, immediately they are opened the constriction will slip up to the narrowest part of the forceps, viz., to the joint, since the blades cannot be opened parallel to one another. The consequence is that the ends of the forceps press out the walls of the foreskin, but no extension is applied to the constriction itself. An instrument proper for the purpose must be free from all these objections. (1) It should be possible to introduce the blades separately. (2) They should open parallel to one another or at any angle. (3) The blades must be of a suitable size and shape to suit the case.

The instrument which I have devised for this purpose consists of two rods, A B, connected together by means of two long screws, C D. At one extremity they are bent inwards and fixed to the blades E E. These blades can be removed, and may be of any size and shape. The rod B is of a tuning-fork shape, with the screw-nut M sliding in the groove between the two branches of the fork. Through the nut M is passed the long screw C, the end of which is received into a cup working on a hinge joint attached to the cylinder K. The screw-end may be detached from the socket by pressing a little spring. The cylinder K slides along the bar A.

The blades are passed separately down between the foreskin and glans. Very small ones are used at first. They are then attached to the rods, which are united by fixing the end of the screw-rod C into the cup-joint K. The screw-rod D, which is fixed only to the bar A by a joint, can be pulled over into the groove of B. Gradual extension can then be applied by turning the nuts M and N. Since there is a joint at K, the blades may be opened parallel to one another or at any angle, and in fact the relative position of the blades may be altered in any direction, so that the constriction may be attacked wherever situate, and any tendency for the constriction to slip up, as in the case of dressing-forceps, can be counteracted.

The idea is not to stretch the foreskin forcibly and at one sitting, but to gradually dilate it in the same manner as a stricture of the urethra is dilated by repeatedly passing a catheter. If the instrument be used once or twice a week for about ten minutes at a time, the foreskin will in most cases go back in a month or six weeks.

The larger blades may be used to thoroughly stretch the tissues and complete the treatment. The foreskin may thus be dilated to any reasonable extent, and will after a time easily roll back over the corona. The instruments are made by Messrs. Arnold and Sons, of West Smithfield.—*Practitioner, Nov.* 1884, *p.* 351.

AFFECTIONS OF THE SKIN, ETC.

79.—ON THE SURGICAL TREATMENT OF STRUMOUS GLANDS.

By T. Pridgin Teale, M.A., F.R.C.S., Consulting Surgeon to the Leeds General Infirmary.

Let me sum up the general conclusions at which I have arrived, as the result of the cases which have come under my observation during the last seven or eight years:—

First.—That our guiding principle should be, in the words of Dr. Allbutt, that, "whenever septic material is contained in the system, we rest not till it be expelled, and its burrows laid open and disinfected." [See Dr. Allbutt's articles on Scrofulous Neck, pp. 116, 120, of this volume of the *Retrospect.*]

Second.—That in a very large number, in a majority, of these instances of scrofulous neck which have come under my care, there was no evidence of any constitutional taint or weakness. The origin of the ailment was clear and defined, bad drains in many instances, scarlet fever, mumps, &c. The cases were often isolated instances in families free from any tendency to constitutional disease. Health was restored to perfect vigour after the destruction of all degenerate or septic material. The removal of the condemned glands was *very rarely* followed by any further enlargement of glands, or by the need of any repetition of operation.

Third.—That surgical interference is not only justifiable, but demanded, in the following conditions:—(*a*) Whenever a sinus resulting from a degenerating lymphatic gland exists. (*b*) Whenever fluid, *i.e.*, pus, can be detected in connection with an enlarged lymphatic gland. (*c*) Whenever there are enlarged glands accessible to surgery in a patient in whom a caseous or a suppurating gland has been already discovered.

Fourth.—As to glands which, not having suppurated, nor having been proved to be caseous in any one instance, are an eyesore, or are accompanied by lowered health, the question of removal may be considered an open one. Probably in some instances the best method of treatment will be by "cautery-puncture." Of this method I have no experience, but it is spoken of most favourably by Mr. Treves in his work on "Scrofula and its Gland Diseases," page 193, and he has employed it extensively.

Treatment.—As to the surgical treatment of these cases the following are my conclusions:—

(1) That surgery can secure the healing in a very few weeks of gland cavities and sinuses, even though they have existed for years, and of wounds resulting from the removal of caseous and suppurating glands.

(2) That in dealing with sinuses, gland abscesses, and decayed or semi-decayed lymphatic glands, the action of the surgeon must be vigorous and thorough.

(3) That the visible abscess, which would often be called and treated as a strumous suppurating gland, is as a rule merely a subcutaneous reservoir of pus, its source a degenerate gland being, *not subcutaneous*, but *sub-facial, i.e.*, under the deep cervical fascia, and sometimes even sub-muscular, the communication between the two being a small opening just large enough to admit a probe or director.

(4) That it is utterly futile to incise or puncture such a subcutaneous abscess dependent upon a degenerate gland which lies beneath the deep fascia.

(5) That when a damaged or suppurating gland has been got rid of before the overlying skin is thinned by advancing suppuration, the resulting scar is insignificant, and not an eyesore.

(6) That in almost every instance in which the cure of the disease by operation was followed by a depressed cicatrix there had been previously a sinus discharging for months, or even for years.

(7) That in dealing with a sinus the channel should be enlarged by the knife or by "Bigelow's dilator," and the whole of its granulating surface should be scraped off. Where a sinus is shallow and covered by thin blue skin, this imperfect covering should be rasped away by the scraper, and any cutaneous overhanging edges should be trimmed off by scissors.

(8) That in dealing with a sinus or an abscess the surgeon should not rest content until he has discovered and eradicated the gland, always remembering that if it be not obvious, there is sure to be a small track leading through the deep fascia to the missing gland. This opening should be enlarged so as to admit the spoon of Lister's scraper.

(9) That when a gland had not suppurated, and is moveable, it can be removed by very little dissection, almost by enucleation, and that, as the healing takes place rapidly, the resulting scar is very faint and insignificant.

(10) That when a gland has suppurated, and generally when it has become caseous, the capsule should be freely opened, and the contents should be eviscerated by Lister's scraper. This is sometimes easy, the evisceration leaving the stiff capsular case virtually cleaned out. Sometimes it is very difficult to get rid, even by most vigorous use of the scraper, of the tough living stump of gland toughly adherent to the capsule. At times it is well to dissect this remnant away by the scalpel, if the risk of injuring important structures be not too great.

(11) That sometimes, after such an evisceration leaving an empty capsular cavity, the finger detects in this wall a bulging of a contiguous gland. This should be pricked through the wall of the

cavity, and so reached and eviscerated. In this way in more than one instance I have emptied from one external opening a group of three or four glands massed together, in close contact, and suppurating or otherwise broken down.

(12) That the following is a good plan of after-treatment. The cavity having been well cleansed by carbolic acid solution 1 in 40, or by carbolised glycerine 1 in 10, is charged with iodoform. An india-rubber drainage-tube, reaching to the farthest recess, is fixed to one extremity of the wound, the edges of which are carefully and accurately brought together by fine catgut suture. The wound may then be covered by a pad of salicylic silk, or some other absorbent antiseptic substance. At the end of a week the india-rubber drainage-tube should be removed. Where a gland and its capsule have been completely enucleated or dissected out, it is not necessary to renew the drainage-tube. In all other conditions, the india-rubber tube should be replaced by one of gilt wire, which should remain until there is reason to suppose that all is healed except the track of the tube. This period will vary from 3 to 8 or 10 weeks.

The effectiveness of the scraping is much aided by the form of scraper. Lister's is, to my mind, much better than Volckmann's. The cup is of a better shape—a large oval, almost circular—instead of a narrow oval, almost pointed. The handle is far superior,

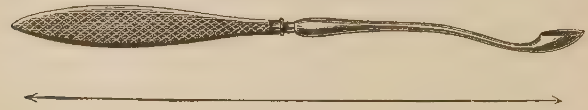
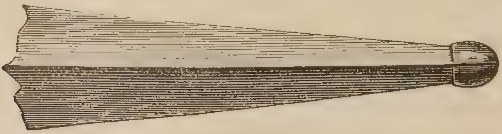


FIG. 1.—Lister's Scraper. 9 inches.



Actual Size.

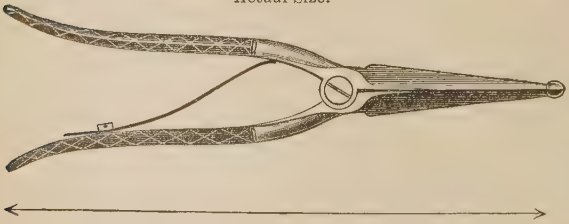


FIG 2.—Bigelow's Sinus Dilator. 11 inches.

being a good double curve, and not straight, allowing the scoop to be swept round a cavity with more telling effect.

I have also referred above to a very valuable instrument but little known—Bigelow's "sinus dilator," represented in Fig 2. It is on the principle of a glove stretcher, and is of great value in enlarging sinuses, especially in regions where the knife cannot be used safely.—*Medical Times and Gazette, Jan.* 10, 1885, *p.* 37.

80.—ON CYSTS IN THE NECK AND THEIR TREATMENT.

By JOHN H. MORGAN, F.R.C.S.Eng., Assistant-Surgeon to Charing-Cross Hospital.

The interest attaching to this subject centres not only in the diagnosis and treatment, but even more specially in the development and origin of the various forms of cysts which are found to occur in the region of the neck. They may be divided generally into those which are the result of some change of condition in parts previously healthy, and those which may be said to arise from developmental error. Naming them more specially, we find in the first category (1) Bursal tumours, (2) Hydrocele of the neck; and under the second (3) Cystic hygroma, (4) Congenital sebaceous cysts.

Bursal cysts are necessarily rare, from the fact that few bursæ are normally found to be developed in this region, and their enlargement is therefore exceptional. The situation in which they are usually found is in front of the pomum Adami and between the posterior surface of the hyoid bone and the upper surface of the thyroid cartilage. In these situations they may sometimes become enlarged, and appear as round, smooth, single collections of fluid moving with the larynx, increasing slowly if increasing at all, and causing little inconvenience or distress.

The second variety of acquired cyst, which goes by the name, not particularly well-suited, of hydrocele of the neck, has been described in this country by Cæsar Hawkins and others, is found in adults, and may occur even at advanced age, one of Mr. Hawkins' patients having been a man upwards of seventy years old.

The clinical characteristics are too well known to need further description, but their origin and causation are still in doubt, and the main point of obscurity in their diagnosis is the difficulty of distinguishing them from solid tumours. In a case which I saw some time ago, which occurred in an elderly woman who was very thin and emaciated, the difficulty of ascertaining the nature of the tumour was so great that it was with the most serious doubts that we ventured to insert a fine trocar. The swelling was about the size of an orange, moved with the trachea, was not attached to the skin, was loose, smooth, hard, and slowly increasing. It lay to the left of the trachea, and was quite painless, nor had it interfered with respiration or deglutition. Still, so great was the tenseness of the fascia overlaying it, and so solid the general feeling of the tumour, that we felt great suspicion that it was of a malignant character. A puncture was, however, made, and a quantity of dark fluid was evacuated, and the patient, after several puncturings, got perfectly well.

The size of these cysts may vary from that of a walnut to that of a cavity capable of holding nearly a pint of fluid, and upon their size as well as upon their situation depend the effects which they produce upon the functions of the trachea and œsophagus. Although not invariably, these cysts are single, a fact of some importance, and one which distinguishes them from the variety which is next to be described.

Again, although the analogy of the name would lead to the impression that the contents are of an aqueous character, in all that I have seen, and in most that have been recorded, the fluid has been more or less dark coloured, as if it consisted of blood in some altered condition. When this is the case, it is possible that the effusion may have, in the first place, arisen from the rupture of a vein, which in the loose connective tissue of the neck might occur as the result of violent coughing or severe exertion; but the cause of their origin is otherwise difficult of explanation, seeing that they have no analogies in other parts of the body, except perhaps the cysts of the arachnoid or hæmatoma of the scalp, both of which are the residual effects of effused blood.

Turning to the cysts of congenital origin, the disease which has been termed congenital cystic hygroma finds its most frequent situation in the neck, although it occurs in other parts where the areolar tissue is lax, as, for example, the back, the axilla, around the kidney, and, in one case which I exhibited at the Clinical Society, in the forearm and hand.

In the neck, the growth lies beneath the deep fascia, and dips between the muscular interspaces. This form is always polycystic, and the spaces which divide the sections of the tumour can usually be detected beneath the skin. They are generally situated in the posterior triangle of the neck, and do not often pass across the median line. In size and in the number of component parts they show very great variety, but, as a rule, one or two large collections of fluid seem to keep the smaller in check, as they are found to enlarge when the others are emptied. Otherwise their growth is capricious. There is also a great variety in the thickness of the surrounding walls, the larger ones being covered by a smooth, glistening, finely fibrous texture, whilst the smaller are confined by tissue much denser, though identical in structure. So, too, the contents may exhibit every variety of colour and consistence, so as in some instances to consist of dark grumous fluid in which float patches of lymph coagulum, in others of clear serous fluid, the nature of which has been investigated, but the composition throws no light upon its origin.

Not infrequently the walls contain solid masses, which are merely exaggerations of cellular tissue, and are always of an innocent nature. I shall not dwell here upon the diagnosis of these tumours, which, as a rule, is sufficiently obvious; but the two points on which I especially seek for information are the origin and the treatment of these cysts.

As regards the first point, the suggestion has been thrown out by Sir James Paget, in a paper in the Medico-Chirurgical Society's Transactions, 1878, "that there is a probability that some congenital and infantile cysts, and even some ranulæ, may be derived from branchial canals closed at both ends and distended with fluid, as hydrocele in the inguinal canal may be formed by the filling of part of a canalis vaginalis."

The suggestion is followed by Mr. Treves, who has described, in the Transactions of the Pathological Society, 1881, a case of cystic hygroma of the neck, where beside one very large cyst there were several smaller, one of which lay in the line of the second branchial cleft. For my own part, I cannot but regard this as a coincidence, seeing that the larger number of these tumours are placed in situations where there can be no possible connection between them and the branchial clefts. Nor do their structure or contents seem to bear out the analogy between them and a hydrocele of the tunica vaginalis, which is formed by hypersecretion of a section of serous membrane. A closer resemblance would seem to commend itself between these tumours and those hypertrophies of the connective tissue which are not infrequently found in the limbs, and which are mainly due to an excessive growth of the fatty tissue, as in the case of an hypertrophied foot depicted in Holmes' work on "Diseases of Children," which, after amputation, was found to be due only to an unusual deposition of fat and cellular tissue, the muscles as well as the bones being normal.

In reference to treatment, the circumstances of the case may make various expedients desirable. Tapping with a fine trocar may effect a permanent diminution, and should be tried before more active measures.

A short time since a child of eight weeks was brought to me at Great Ormond Street Hospital with a very large hygroma, occupying the right side of the neck. One large cyst stood out prominently, and this I tapped, withdrawing about 2½ ounces of dark brown viscid fluid. When seen the following week the cyst seemed to be nearly as full as ever, but there was no sign of inflammation, and the child was not seen again for ten days, when it was found that the swelling had very nearly disappeared, and the skin, which had been tense, now hung in loose flaps over the region of the swelling. In another case a boy of nine years old was brought to me with a large oval swelling over the thyro-hyoid region. On putting in a fine trocar, some clear gelatinous fluid issued, but as it was too thick to pass freely I placed the patient under chloroform, and proceeded to dissect out the cyst, which extended itself rather deeply, and was connected with several smaller ones which lay behind and dipped down between the trachea, the muscles, and large vessels, and required a long and careful dissection. The whole mass was taken away, and, though the cavity was deep, healing proceeded satisfactorily, and the boy was soon able to leave the hospital. Mr. Smith, who has described several cases of this affection, recommends the use of setons, preferring for the purpose carbolised catgut, and suggests the use of Morton's iodoglycerine.

But the great danger to this and to all other treatment lies—(1) In the very extensive connections which may exist, and be prolonged into parts where pressure may cause serious danger. (2) In the readiness with which these structures become inflamed.

The serious nature of the inflammation which so readily occurs in this tissue even from a blow, or from the introduction of setons in parts where danger cannot arise from impeded respiration, such, for instance, as the outer part of the neck or the axilla, was pointed out by Mr. Smith in two cases which he showed at the Clinical Society. This would suggest the desirability, when possible, of taking a somewhat bolder course, and of opening as many of the sacs as possible, and by free drainage and antiseptic dressing avoiding any septic complications, and trusting to a limited inflammation producing cohesion of the remaining tissue. But the feasibility of such a course must depend upon the size and position of the cysts, as well as upon the nature of their deeper connections. The first of these may prohibit all interference, as in the case of a very young child which was brought to me on account of a hygroma on both sides of the trachea, but which did not seem to have exerted any baneful effects from pressure. The child caught a slight cold and died suddenly. I made an examination with the assistance of Dr. Angel Money, and found that the tumour was composed of many cysts containing dark brownish fluid in which were some floating clots of decolourised fibrin. It extended downwards on each side of the trachea into the thorax and behind the pleura on each side. The trachea was compressed and narrowed, and bronchitis supervening, death had occurred in consequence of the obstruction to respiration. The knowledge obtained from this case has made me refrain from interfering in a similar one which is now under my observation.

In the previous class of cases, viz., the hydroceles of the neck, where the cyst, however large, is single, such treatment is much more easy of application; and there would now be no hesitation in opening the cavity, and, after evacuation of its contents, in washing it out freely with antiseptic lotion, draining and keeping aseptic after the usual method.

The remaining class of cysts to which I will refer have no doubtful origin. The sebaceous cysts which occur congenitally in the neck are doubtless the relics of some aberrant portion of epiblast which has become misplaced in the course of development of the body. They are often deeply situated, and have a further interest from the fact that they are in most cases found to lie in the position of one of the branchial arches or of the clefts between them, which are found to exist in an early stage of embryonic development. Thus, they are found beneath the tongue, probably in connection with the first branchial arch which forms the lower jaw, and they occur in the line of the sternomastoid, particularly about its insertion into the sternum and clavicle, where, in fact, the fourth and fifth arches unite to form the anterior wall of the neck. Other relics of these arches and of the clefts between them are found in these situations, such as branchial fistulæ and supernumerary auricles, several examples of which I have come across during the last few years. I have met with a large number also of these congenital cysts, and during the last year at the Children's Hospital have operated in four cases for their removal. Beyond the ordinary altered sebaceous material and a few rudimentary hairs, I have not found any of those other structures which are occasionally met with in tumours of a similar character, such as bone, teeth, etc. In the case of a woman who came to me at Charing Cross, I evacuated from a large swelling below the jaw, which raised the floor of the mouth, a quantity of material, having the consistency of putty, of a greyish pink colour and with a very foul odour, which evidently belonged to a cyst of this nature. The patient had been under treatment on several occasions at other hospitals, and when seen by myself was in too weak a state of health to submit to the prolonged and dangerous dissection which would have been necessary for the removal of the sac. It became much reduced in size by means of draining and frequent washing.—*Medical Times and Gazette, Dec.* 27, 1884, *p.* 878.

81.—ON VACCINAL ERUPTIONS; THEIR CAUSES, PREVENTION, AND TREATMENT.

By ROBERT J. LEE, M.D., F.R.C.P., Physician to the Hospital for Sick Children, Great Ormond Street, London.

It appears to me necessary, before we can hope to arrive at any clear conception of the relation between these eruptions and vaccination, that we should try and explain the more definite eruptions symptomatic of the specific fevers. Have we any reasonable explanation to offer for the difference between a typhoid and a typhus spot on the abdomen? In small-pox we find the mucous membranes are affected in the same way as the skin, and that points of active changes occur upon them which are evidently due to the same cause in cutaneous and mucous tissues alike. In fatal cases of variola the most striking pathological condition is the deep staining of the tissues with the colouring matter of the blood, and this is due, not to the escape of blood corpuscles from rupture of vessels, but from destruction of the corpuscles and transudation of the colouring matter. It would, therefore, seem probable that altered conditions of the blood are the causes of various eruptions or discolourations of the skin, at least in the case of the specific fevers. Seeing how the eruptions which follow vaccination are multiform in character, we must be prepared to admit that they are possibly due to different conditions, although apparently arising from one and the same cause.

In some cases the eruption appears very soon after vaccination—on the second or third day—and you might imagine that such an eruption might be due to specific vaccinal fever. The evidence is against such a view, as Trousseau perceived, and as Dr. Behrend makes a point of. An eruption appearing two or three days after vaccination has the character of a roseola, and is not vesicular like vaccinia.

My own experience agrees with Dr. Behrend, therefore, on this question. We come back, then, to what is the cause of these eruptions. You will probably have opportunities of observing that the occurrence of an eruption after vaccination depends very greatly—I should almost say entirely—on the amount of action in the locality of the operation. When the skin inflames around the punctures, then we see eruptions occurring. You will sometimes meet with instances of extensive eruptions, exactly similar to those which follow vaccination, where they have been due to a wound in the skin from injury or other cause, and where inflammation has followed in the part injured. On referring to my note-book for such examples, I find the following of common occurrence. Within a period of a few months there were two cases of dermatitis of the head and face following herpes zoster; one of impetiginous eczema after the scratch of a cat; one of dermatitis following otorrhœa; one of ecthyma of the arms and legs from the same cause; another case of dermatitis from the scratch of a cat; one similar after ringworm; one of ecthyma after chicken-pox; one of dermatitis after an abscess in the arm; another case after chicken-pox. In three cases dermatitis followed the treatment of nævus with nitric acid. These last three cases occurred some years ago, and are not to be included among the former, which, as I have said, followed closely on one another, with intervals of only a few days between them.

I mention the three cases connected with nævus because the children were quite healthy before the operation, and the occurrence of the eruption led me to give some attention to this subject, and to suspect that the professional idea of vaccinal eruptions being only coincidences might possibly be farther from the truth than the popular notion to which so much of the prejudice to vaccination was clearly to be attributed.

Let us now consider how we can apply these views in practice. In the first place, we must fully and freely admit that certain effects—evils if some wish it—may follow vaccination; but if we go on to explain how these happen, what a different conclusion must an unprejudiced person arrive at respecting the relation of cause and effect from that which is ignorantly advanced by the opponents of vaccination!

The next question we naturally ask ourselves is this:—Seeing that the cutaneous disorders arise from a local cause, may we not possibly diminish, or entirely prevent, the possibility of the operation of vaccination being attended with local disturbance?

It is quite clear, from the case of calf-lymph vaccination we have examined to-day, that it matters not whether the source of the lymph be from the human subject or from the calf. The local inflammatory action around the vesicles being the determinant cause of the cutaneous eruption, it is clearly of first importance to take steps to prevent this as far as possible. Seeing, also, that in this case, as in many others, there may be a tendency to dermatitis, hereditary or diathetic, which would favour some form of eruption, may we not explain to parents the difficulty in which we are placed, and so escape the mistaken accusations which they might make against us or the operation?

In practice, the following plan may be adopted:—Recognising the fact that lymph ought to be taken on the fifth or sixth day, and not later, for fear of any products of decomposition being mixed with it, vaccination should be performed in *one point* only; and, further, that in the introduction of the lymph only the slightest injury should be done to the surface—that is to say, only the superficial layer of epidermis should be removed. We know well that the inflammatory process has a tendency to spread along the subcutaneous tissue very readily, and when we recollect that the skin of the infant is far more delicate than in the adult, we ought to limit the depth of the incision just sufficiently to expose the vaccine lymph to the absorbent action of the superficial lymphatics.

By vaccinating in one point only, we diminish considerably the probability of local inflammation, and, though it may be allowed that three punctures afford more certain protection than one, I have satisfied myself of the great advantages of the plan that I am now recommending to you.

There is another matter, however, of considerable importance, and on which I must say a word before concluding. After vaccination has been performed, and the lymph has been absorbed, local inflammation may be prevented to a surprising degree by local treatment. By fomenting the arm with hot water night and morning, dusting it with zinc oxide, starch, or precipitated sulphur, and then protecting it with a covering of lint and plaister, the vesicle will pass through its various stages with little irritation, pain, or trouble to the infant. Instead of the arm being inflamed, even to the extent commonly noticed, the great object which we ought to keep in view is attained, namely, the production of a certain constitutional effect, which, after all, is the purpose of vaccination, with the least amount of local injury, which is certainly no necessary part of the operation, but is the evil most distinctly to be avoided.—*Medical Press and Circular, Oct.* 8, 1884, *p.* 304.

82.—GANGRENE OF THE SKIN AND CELLULAR TISSUE OF THE ARM FOLLOWING VACCINATION.

By R. Clement Lucas, B.S., Assistant-Surgeon to Guy's Hospital.

E. G. P—, æt. 5 months, was brought to me at the Evelina Hospital, on Wednesday, February 28th, 1883, on account of a gangrenous condition of the skin of the arm following vaccination.

The mother was a delicate-looking woman; the father a strong, tall, well-built man. The parents had been married six years, the father's age being twenty-seven. There had been three children as the result of the marriage, none of whom had been suckled by the mother. The first child was born thirteen months after marriage. This child had a rash over its buttocks when six weeks old and a thrush in its mouth, but the mother was doubtful as to snuffles. It had no medical treatment, and got well when Fuller's earth was used, and the buttocks were washed with oatmeal and water. The mother never suffered from an eruption of any kind, either during her pregnancy or after the birth of this child. This child was brought up on the bottle, and had rickets when a year old, but is now strong and well. The second child was born about two years ago. It likewise had a rash over its buttocks when about six weeks old, and the mother thinks it also had snuffles. It recovered without medical treatment, and, though bottle-fed, escaped from rickets. The mother has never had a miscarriage.

The third child, who is the patient, was born on the 10th of August, 1882. It had snuffles at birth, and a rash over its buttocks when three weeks old. It also had thrush in the mouth. It was treated by a medical man, who gave it grey powders, &c., and the rash disappeared. It has been fed on condensed milk, Ridge's food, and Robb's biscuits. It was thin and weak when taken to be vaccinated. When three months old it was taken to be vaccinated. The first time it was vaccinated it did not "take"; accordingly, a week later, it was vaccinated in the same place again, but again the vaccine failed to produce vesicles.

The child was not taken again until it was five months old. It was then vaccinated for the third time in the same site, and the following week five vesicles had developed. No child was vaccinated from this infant, nor was any lymph taken from its arm. Between the second and third vaccination the mother had noticed that the child had grown thinner. The last operation was performed in January, 1883, and about three weeks later the skin at the site of the operation turned brown and sloughed. She took the child to a private medical man, who treated it for a short time, and then advised her to take it to the Evelina Hospital.

When I first saw the child it presented the following appearance:—It was extremely emaciated, with sunken cheeks and eyes, and wasted limbs. The abdomen was tympanitic, and there was no enlargement of either liver or spleen. There was no craniotabes or enlargement of any epiphysis, and the ribs were not beaded. The buttocks and pudendum were in a state of intertriginous eczema, but there were no disseminated shiny spots, and no eruptions on any other part of the body. The mucous membrane of the mouth and lips was sound. The left arm was slightly swollen, and at its upper part presented a somewhat remarkable appearance. A sore commencing at the point of the shoulder extended down below the middle of the arm, and was occupied in the centre by a large, thick, black slough. The sore was two inches and one eighth in length by an inch and a half in breadth. It presented a sharply defined edge of ulceration, which dipped through the skin into the cellular tissue beneath, and a red blush of injected vessels extended for about half an inch around. Between the slough and ulcerating edge was a yellow line coated with pus. The slough, which was hard, black, and dry, was divided into two portions, the upper of which was oblong in shape, an inch and a half in vertical measurement, one inch across, and a quarter of an inch in thickness. The smaller portion of slough was situated below and in front of that already described, and was about three-quarters of an inch in diameter. There was no glandular enlargement in the axilla.

The child was ordered cod-liver oil and steel wine, and carbolic oil was applied to the wound. It died on March 4th, having gradually sunk without any convulsion or special symptom of note.

The father of the child most emphatically denied ever having had a venereal disorder of any kind, either before or after marriage.

Post-mortem.—The head was not examined. The heart was healthy. The lungs were collapsed at the lower part behind. The intestines were empty, and stomach small. The liver was healthy and the spleen also, but contracted. The kidneys were also healthy.

On inquiring of the surgeon who vaccinated the child if anything had been noticed in other cases operated upon at the same time, I was informed that four other children had been vaccinated from the same source, and that no ill result had followed in any of these cases.

Remarks.—The first question which will suggest itself is, whether syphilis might have been the cause of the gangrene at the site of the vaccination, and if so, whether it was introduced with the lymph or whether it previously existed. That it was not a case of vaccine syphilis I think we may decide with absolute certainty, since the records at the vaccination station show that four other children were vaccinated from the same source, and in these no untoward circumstance occurred. Moreover, the wound did not present the characters of hard chancre, and—what I think of even greater importance—there was no glandular enlargement in the axilla or elsewhere. The child had an eczematous eruption about the buttocks, but this had made its appearance some months before the vaccination, and could not therefore be attributed to any poison introduced at that time.

Putting on one side the chance of vaccination syphilis, there remains to be discussed the question of hereditary disease as possibly determining the character of the sore. I searched very carefully into the history of the case to discover any such taint, and the family history, as indicated by the occurrence of rashes on other children, is sufficient to excite ground for suspicion. The mother, however, denied all knowledge of infection, and also that she had suffered from any skin affection or sore throat. In this case, the father denied absolutely that he had ever suffered from a venereal disorder. The eldest child was born thirteen months after marriage, and had an eruption at the age of six weeks, which, however, seems to have disappeared without any special treatment. I could not obtain any definite history of snuffles in this child. The second child seems to have had both rash and snuffles, but to have recovered like the first without requiring any special medical treatment. The third child was the patient whose history is detailed, and there seems no doubt that it had both snuffles and a rash on the buttocks. At the time, however, it was brought under my notice, the eruption on the buttocks presented none of the characters which one might consider characteristic of syphilis.

Taking the evidence as a whole, I am inclined to doubt the existence of syphilis, and to attribute the rashes to the artificial diet and neglect of cleanliness. The inability of the mother to suckle her children, and the consequent injudicious feeding to which the children were subjected, is, I think, alone sufficient to account for the imperfect health suffered by these infants. Those who are connected with children's hospitals in London know only too well how great a bulk of out-patient practice is contributed by these two factors, innutritious diet and lack of cleanliness.—*Guy's Hospital Reports,* 1884, *p.* 31.

83.—TREATMENT OF VASCULAR HYPERTROPHY OF NOSE.

By J. Herbert Stowers, M.D., Physician to the Skin Department, North-West London Hospital.

Occasionally, allied to acne rosacea, we meet with instances more or less severe of hypertrophy of the nose. Apart from cutaneous disorder, cases occur in which simple passive congestion of the organ exists, attended with troublesome subjective symptoms, as tenderness, throbbing, irritability, &c.

I am not aware that any special treatment has been advocated for the above, neither do I know that in any published treatise vascular hypertrophy of the nose is fully dealt with. Chronic passive congestion leads to connective tissue increase, and to the production of lasting deformity; indeed, examples of such must be familiar to all. I do not contend that cases of long standing can always be cured by the method I propose, especially when the apex is pendulous, or bulbous; but in acute rosaceous acne, simple passive congestion with enlargement, or fibro-cellular hypertrophy, I would commend with much favour the adoption of the plan described by the title "multiple punctiform scarification."

Hebra, years since, suggested that for the more effectual treatment of erythematous lupus, a bundle of scalpels should be tied together, to enable many, more or less deep, punctures to be made perpendicularly to the surface in the skin by one movement of the hand. At the instigation of Dr. Sangster, physician to the skin-department of the Charing Cross Hospital, a convenient instrument has been devised, whereby the necessary number of minute double-edged steel blades can be included in one handle. Such an instrument I am enabled to show you at this time.

The intense congestion of the skin in rosaceous acne I had often permanently relieved by local depletion, but it was not until I was familiar with this instrument that I learnt the lasting benefit resulting from frequent blood-letting in this and more aggravated states. After the congested organ has been thoroughly fomented with water, as hot as it can be borne, for several minutes, it should be held, and somewhat compressed, between the left thumb and finger of the operator, and then rapidly punctured with the instrument (two or more blades of which are "guarded," to prevent too deep insertion) perpendicularly to the surface, from base to apex. The compression considerably reduces the pain attendant upon the procedure.

It must necessarily be at the discretion of the practitioner in what cases, and how often, this plan should be adopted and repeated. Although the number of punctures must vary with the severity of the case, the narration of three cases under my care, permanently benefited, will, I hope, be useful and instructive. These were respectively under treatment seven months, seven months, and five months, and the corresponding number of punctures in each case were 15,750, 11,150, and 52,200. The average number of punctures tolerated at one sitting will, of course, also vary with the sensitiveness of the part and the endurance of the patient. I have found by experience that from 500 to 3,000 is about the average, for, necessarily, the process is followed by temporary inflammatory swelling, which, however, soon subsides.

The average interval I have allowed to elapse between each operation has varied from five days to a fortnight, and the quantity of blood abstracted from one to three drachms. Smearing the surface with vaseline, and protecting from the outer air, especially in cold weather, is the only additional treatment needed, besides such internal remedies, saline aperients, alteratives, &c., as the general condition of the patient may indicate. I may add, I have seen no complication, or untoward symptom, result from this method. The use of alcohol must be emphatically denied.

I repeat, in all instances, lasting and satisfactory results have been procured, and are attributable to the local depletion, which allows recovery of tone of vessels, the contractibility of which has not been permanently destroyed, and also to the invisible scarring which, by after-contraction, reduces the vascularity of the skin. This after-scarring is hardly discernible. I regard this method as capable of preventing cellular, and fibro-cellular, hypertrophy, which results from long continued passive vascular congestion of the nose.—*British Medical Journal, Jan.* 10, 1885, *p.* 68.

84.—ON ACNE ROSACEA, AND ITS TREATMENT.

By Tom Robinson, M.D., L.R.C.P., Physician to St. John's Hospital for Diseases of the Skin, London.

I would define acne rosacea as a disease which is seen almost exclusively on the nose, cheeks, chin, and brow. It will sometimes attack the scalp, but only in the bald, and I have once seen it on the sternum. It is a disease which is found about equally in both sexes, but is never met with before the age of puberty, and seldom before 25 years of age; it occurs in women with much greater frequency at the climacteric period of life, than at any other age, but it is not by any means limited to this epoch. It is always heralded in by flushings of the regions attacked, which flushings are much increased after food, or by an injudicious diet; these flushings then run into suffused red patches, with permanent dilatation of the blood-vessels; afterwards pimples form, these may go on to suppuration, and the parts then become the seat of a chronic inflammatory process. When the inflammation has continued for some time, large patches of lead-coloured tissue will form, and the sebaceous follicles may, and frequently do, become involved, but they in no way form an essential part in the etiology of acne rosacea.

My chief object is to endeavour to show that the greater number of cases of acne rosacea are associated with an irritable state of the mucous membranes, especially that of the stomach; or, in other words, that gastric catarrh is the forerunner of acne rosacea. I should eliminate from this proposition those cases which are found as a sequel of small-pox, or of any other inflammatory process which has occurred in and around the sebaceous follicles of the face; neither do I wish it to be understood that I in any way postulate that every case of gastritis is associated with rose-coloured papules on the face; but I do wish to emphasise my belief that in all cases (excepting those just referred to) it will be found that these patients have flushings after food, and, lest this statement should appear unsupported by other testimony, let me draw attention to the red faces which we see after a dinner; to the blanching of the face in those who are sea-sick; to the pinched face of cholera; to the abdominal face, as it is called, which we see in wounds of the intestines, or perforation from ulcers. These point to a sympathy between the circulation of the face and the condition of the abdominal organs which every student knows.

For the purposes of description, I would distribute all the cases of acne rosacea into the following classes.

First, Those cases which we might conveniently call congestive acne rosacea, which generally commence by reddish patches, occupying, by predilection, limited spaces on the cheeks, the forehead, the sides of the nose, whence the redness in some cases spreads over the whole face, and even to the ears, the shoulders, and the chest, appearing usually in an unsymmetrical manner. The red patches appear at first for some moments only, generally during or after dinner, and towards evening rather than in the morning, being more evident in very hot rooms. The redness, in the first instance, is very fugitive, but afterwards becomes deeper in colour and more lasting, and is not uncommonly followed by desquamation. A precisely similar condition is met with amongst huntsmen, gamekeepers, and farm-labourers, and others who live much in the open air, but it is only found in those who have thin skins.

Secondly, Those cases where, in addition to the congested state of the integument, papules form, which in the first instance are not red, but afterwards they become vividly so, and sometimes they suppurate at their apices. These spots come out in successive crops, and in women are more marked about the menstrual period, and are intensified in colour by improper food or hot drinks. I should include in this group all the cases of relapsing erythema, and the so-called relapsing erysipelas, because I believe these are only degrees of the same proclivity.

Thirdly, The "jolly," or "bottle-noses," as they are called—that is, those cases where, in addition to the varicose condition of vessels and papules, we find at times enormous hypertrophy of the cellular tissue, giving rise to the most grotesque disfigurements. A careful examination of these cases will enable us to see the whole glandular system is involved. The sebaceous glands are in every stage of inflammation; the blood-vessels stand out in bold relief. This state in no way differs from elephantiasis of the legs, which we see in the wake of varicose ulcers.

I should like to include a fourth variety, which is common in women at the climacteric period of life. It has been noticed, from the time of Shakespeare, that old women grow beards; and it is a well known fact that, gradually, as menstruation ceases, women often become fat, and many of them grow a crop of hair on their upper lip, but chiefly on the chin; and it is this physiological activity in the hair-follicles which, in many instances (especially in those who had the acne of youth), that transgresses the boundaries of health, and we see developed unsightly papules, most obstinate to cure.

I by no means wish it to be understood that these different degrees of acne rosacea have a distinct line of demarcation. Nature does not draw for us clear lines, especially in dermatology, rather do we find the diseases shade into each other gradually. I must say, in treating any case of acne rosacea how essential it always is to estimate any superadded influence, such as syphilis, scrofula, or gout; each will give a local colour to the disease, and embarrass a great deal both our diagnosis and our treatment. It appears clear that any portion of the body which is the subject of repeated congestion will eventually be the seat of an inflammatory action, and in this disease we have a good illustration of the law.

We must believe there are some skins which will not, under any circumstances, take on a diseased condition; but, given a cutaneous area, with an inherited tendency to become inflamed under provocation, which tendency is exaggerated in the face, because of its pre-eminent blood-supply, and its close sympathy with the digestive process, which association is conveyed from the solar plexus up the great splanchnic nerves to the lower, middle, and upper cervical ganglia, to the nerves of the face; the skins become congested in cases of difficult digestion. This exaltation leads to a temporary congestion of the blood-vessels; the congestion becomes stasis. The papillæ becoming congested, and afterwards inflamed, sometimes suppurating, the nutrition of the portion of the skin is altered, so that the surrounding tissues become inflamed, and eventually hypertrophied. The inflammation and new growth select those situations which are the richest in blood-supply and glands, that is, the alæ nasi, the cheeks, and the chin. The arrangement of the papillæ in excess around the hair-follicles accounts for the frequency with which we find follicular acne associated with acne rosacea.

That alcohol does produce in some skins all the degrees of acne rosacea is undoubtedly true; but, to associate all cases of the disease with excessive drinking is unscientific and unfair. I know very many most rigidly careful people afflicted with the malady; and the popular name for these red spots being "grog-blossoms," in no way diminishes their suffering.

The treatment may be summed up in a few sentences. It is essential that all those who are afflicted with acne rosacea should abstain from all food which is difficult to digest, such as pork, veal, hashes, stews, and uncooked vegetables; and, as a general rule, from wine, beer, and spirits. The face should not be irritated by common soap, and care should be exercised as regards exposure to the wind and sun. The meals should be slowly eaten at regular hours, and the fluid put into the stomach at the end of the meal.

In the first degree of the disease, it will only be necessary to prevent the development of the papules, by applying a lotion, made with bismuth and the glycerine of starch of the pharmacopœia, diminishing the starch by three-fourths.

When the papules are developed, nothing answers so well as a lotion made with two grains of the bisulphuret of mercury in one ounce of almond-emulsion or glycerine of starch, used every night.

When the inflammation is acute, and suppuration is going on, we must, in the first instance, foment the face with hot water (placing a hot sponge over any troublesome spot is a simple and useful plan); and, when the acuteness of the inflammation has subsided, rub in an ointment made with twenty grains of the yellow oxide of mercury in one ounce of lard, and continue this treatment until the inflammatory process has stopped; after which, the bismuth and starch lotion answers well.

Internally, I always rely upon a mixture made with an alkaline carbonate; soda, I think, is best. If there be much inflammatory thickening, I add the solution of perchloride of mercury, or if there be any syphilitic tendency to grapple with, I add the Donovan's solution; if scrofula, cod-liver oil; but internal and external remedies are useless where organisation of tissue has taken place. I have never seen an operation performed upon the advanced cases of acne rosacea.—*British Medical Journal, Jan.* 17, 1885, *p.* 125.

85.—AN INSTANCE OF CURE OF LUPUS ERYTHEMATOSUS.

By Jonathan Hutchinson, F.R.S., Emeritus Professor of Surgery to the London Hospital.

All who know the disease will, I am sure, admit that cases of recovery from lupus erythematosus are, unfortunately, rare. As an instance of completed cure, the case which I am about to relate becomes, I think, of much interest.

I first saw Mr. J. P. B. on March 4th, 1881. He came to me on account of patches of erythema-lupus on each side of his nose, about its middle. There was a third on its ridge, near the tip, but the three did not coalesce, and thus the bat's-wing was not complete. Their arrangement was, however, quite symmetrical. Mr. B. was a tall man, rather spare, but in fairly good health. His age was 45. He had never suffered from actual chilblains, but had a feeble circulation, and dusky ears. A maternal aunt had died of phthisis. He had himself once consulted the late Dr. Baly, in the belief that his chest was delicate, but had been told that he ailed nothing but "dyspepsia and weak heart." His skin had always been very irritable, and he was liable to little spots on the hands, &c., which itched intolerably, and which he used to scratch until they became sore. Such was his state when the erythema-patches showed themselves on his nose. I may add that he was living the life of a country gentleman in a cold district. The patches had been present about a year when he came to me. I prescribed for him arsenic internally, and a weak lotion of tar and lead to bathe the patches.

Between 1881 and April 1883, I saw nothing of Mr. B. At the latter date, his surgeon, Mr. Williams, of Norwich, wrote me that he was worse. It was now decided to insist on the use of arsenic.

In February 1885, Mr. B. called to show himself, and to tell me that his lupus was quite well. It was absolutely so. White, thin, inconspicuous scars took the place of the former patches, and there was neither thickening nor erythema at their edges. The scars on the sides of the nose were each as large as a shilling, that on its middle not so big. On the scalp, which was nearly bald, there were several other scars as big as the end of one's thumb, which were the remains of other patches which had developed since his visit to me. As regards his cure, Mr. B. said that it was unquestionably due to arsenic. He said that, in consequence of my having remarked that I trusted most to external treatment, he did not, on the first occasion, continue the arsenic, having a prejudice against it, but used the tar and lead wash assiduously. The patches increased, and new ones on his scalp formed. Two years later, in 1883, Mr. Williams insisted on his taking the arsenic, and increased the dose. It was continued for fifteen months regularly, caused a sharp attack of shingles, and made the eyes red and irritable, but, in the end, quite cured the lupus. I inquired carefully as to whether any local remedy had been employed simultaneously, which might have been the real agent in the cure, but it did not appear that such was the case. As regards the patches on the scalp, it is true that Mr. B. thought that a hair wash, "which made the scalp smart," had done them good; so much impressed had he been with this belief, that he applied the wash to his nose also, but this had been done only on a few occasions, and had not, he thought, helped the cure. It must also be remembered that he was taking arsenic all the time that the wash was being credited with the cure of the scalp-patches.

Comments.—I have prescribed arsenic for many other cases of lupus erythematosus, but, having never realised any definite result, I have not urged it with much faith. It may easily be the fact that it has seldom been sufficiently pushed. It will be seen that, in this case, we have proof, in the occurrence of arsenical shingles and of red eyes, of the full physiological influence of the drug. I have, in a certain minority of cases, cured, or partially cured, this disease by the use of external applications, but have never thought that internal medication had any definite effect. This case would certainly suggest a more free use of our great remedy. I fear, however, that we shall find that it is by no means generally successful, and that Mr. B.'s case is, after all, a fortunate exception to rule. I have certainly seen many cases in which other surgeons had, before the patient came to me, pushed arsenic very freely, and sometimes apparently rather with injury than with benefit. The clinical fact that lupus erythematosus differs from all other forms of lupus in its tendency to develop symmetrically in isolated and independent patches, seems to show an alliance with psoriasis. At any rate, it indicates a constitutional rather than a local origin, and, as such, implies the probable need of internal remedies.

I append a note from Mr. Williams, which gives details as to the treatment. "Norwich, March 5th, 1885. I am very glad Mr. B. called on you; he seems to me to be quite cured of his affection. The arsenic was pushed to its fullest, and persisted in from March 1883. Until lately, that is, until about three or four months ago, no local application was ordered by me; but, very rarely, he used a lotion prescribed by you, I think liquor carbonis detergens. Mr. B. took five-drop doses of liquor arsenicalis in water, three times a day, very seldom missing a single dose. When his conjunctivæ became congested, and the eyelids swollen, he left the remedy off for several days, more or less, according to the condition of the eyes. I was constantly urging him to go on with the remedy—pertinaciously so, indeed—and the result has been what you see.—CHARLES WILLIAMS."—*British Medical Journal, March* 14, 1885, *p.* 535.

86.—ON ERASION AND NITRATE OF SILVER IN LUPUS.

By J. H. STOWERS, M.D., Physician to North-West Lond. Hospital.

When the process of scraping is completed, and the hemorrhage arrested (local depletion being, doubtless, an aid to results), the serous discharge escaping from the wounds should be carefully soaked up with clean blotting-paper. Attention to this latter point will obviate the risk of the dissolved caustic running over the surrounding healthy integument, and so adding needlessly to the suffering of the patient.

It is necessary that the nitrate should be pushed deeply into the holes and insterstices left by the instrument; in fact, it should be made to burrow into the tissues quite as extensively and deeply. Considerable inflammation of course follows, which assists ultimate absorption; but the intensity of the pain does not last nearly so long as that attending the use of other caustics.

The parts should be dressed with lint well saturated with carbolised oil, the next day more oil being allowed to run under the dressing. The second day after the operation, when suppuration has commenced, fresh carbolised oil-dressings should be applied, and so on daily. So severe is the smarting if water be used, that it is preferable, until the discharge is considerable, to cleanse the part by gently rubbing with lint dipped in olive-oil, to which a drop or two of carbolic acid may be added. Later, when the sloughs are separating, a weak carbolic acid lotion is advisable for the same purpose, and may with advantage be used with a syringe.

In the cases under my care, which have been, so far, attended with permanently good results, it was necessary to repeat the operation at intervals varying from six to eighteen months; indeed, in some, several repetitions have been compulsory. But I contend, and that very strongly, that, if every new tubercle be immediately attacked, the instances will be few and far between, if any, in which, with the addition of appropriate internal and constitutional treatment, the tendency to new development will not be outmatched.

The destructive results of this rebellious affection are too well known to require a word more in this direction; suffice it to say that in five cases, at least, I have secured noses marked now with a relatively limited scarring, which would otherwise (if left without local treatment) have broken down by extending disease and secondary ulceration, to the production of irremediable and hideous deformities.

The natural tendency to recur must never be accepted as sufficient reason for not contending again and again with the disease until that age or condition of health be reached which will secure lasting and permanent immunity.

I would recommend, not less strongly, that any neighbouring tissue, while suspicious in character, though not readily breaking down under the scoop, should be freely submitted to multiple punctiform or linear scarification, combined with a liberal use of the solid nitrate of silver.—*British Med. Journal, Jan.* 3, 1885, *p.* 11.

87.—ON HYDROCHLORATE OF CUCAINE IN PRURITUS ANI.

By Malcolm Morris, F.R.C.S.Ed., St. Mary's Hospital, London.

Nearly four weeks since I was consulted by a middle-aged gentleman of very careworn appearance, who had for years suffered from this complaint. From the first, a good night's rest had been a thing quite unknown to him, his sleep having consisted of snatches of an hour or so at a time, out of which brief respites the intense irritation and pricking in the anus would cause him to start, and to lie awake for hours in a state of the keenest misery.

Finding, on examination, nothing beyond a slight thickening of the skin-folds from scratching to account for the disease, I ordered a twenty per cent. solution of hydrochlorate of cucaine with five per cent. of glycerine, to be applied in the following manner. Lying on his back, the patient was to force down and extrude as much mucous membrane as possible, and this part, as well as the skin surrounding the anus over a surface of about one inch and a half radius, was first to be thoroughly washed with warm water, and afterwards painted with the solution three times at intervals of ten minutes, the part being allowed to dry somewhat after the third application before moving from the recumbent position. As the result of this treatment, the patient slept quietly for seven hours.

This method had been persevered with night and morning for more than a week, without any return of the distressing symptom, when circumstances occurred which caused the remedy to be neglected for two days, whereupon the irritation recommenced with its former severity. The treatment was then resumed, and relief was once more obtained, and a continuance of the process during the last fortnight has produced the most satisfactory results.

It is too soon yet to speak of cure, as, of course, the mischief may return on discontinuing the treatment; but, at any rate, the freedom from torture is daily giving the patient strength to meet such an eventuality. Meanwhile, and without accepting the patient's extravagant estimate of the remedy, it may fairly be put on record that, in one case of a malady usually most difficult to relieve, signal benefit has attended the use of this new and valuable local anæsthetic.—*British Medical Journal, Jan.* 24, 1885, *p.* 177.

88.—ON OLEATE OF COPPER, AND ITS EMPLOYMENT IN PARASITIC DISEASES OF THE SKIN.

By F. Le Sieur Weir, M.D., Clinical Professor of Diseases of the Skin in the Medico-Chirur. Coll. of Philadelphia, &c.

The form under which all of the oleates made their first appearance was as solutions of the oxide of the base desired in simple oleic acid, and the United States Pharmacopœia so directs that oleate of mercury shall be prepared. But it will not require an expert knowledge of chemistry to see that such a combination, lacking as it does a reaction, not to mention the entire absence of water, is not a salt at all, in the strict chemical sense of the term.

Instability in strength was not the least of the objections urged against these preparations, not to mention chemical changes which rendered their application inadmissible, if, indeed, not highly improper. Physicians, and dermatologists especially, need not be told of the effects of a rancid ointment.

Recognizing these and other defects, and owing to the numerous complaints of myself and others who had made extensive use of the oleates, my friend, Dr. Wolff, became desirous of furnishing an article which would overcome objections and at the same time be *chemically pure.* To this end, then, the doctor commenced a series of experiments which finally resulted in the production of an oleate which fulfilled all the required indications.

"One part of Castile-soap (sodium oleo-palmitate) is dissolved in eight parts of water; the solution so obtained is allowed to cool and stand for twenty-four hours, when there will be a considerable deposit of sodium palmitate, while the supernatant liquor, containing mostly sodium oleate, is drawn off, and then decomposed with a concentrated solution of a metallic salt (cupric sulphate), which, if obtainable, should contain no free acid to prevent the formation of free oleo-palmitic acid. The heavy deposit of oleo-palmitate so derived is strained off, pressed out in the strainer, and the adherent water evaporated in a water-bath; after this it is dissolved in about six or eight times its quantity of petroleum benzin, and the insoluble palmitate is left to subside while the solution of oleate decanted therefrom is filtered off. The benzin evaporated will yield an oleate that is entitled to that name, as it is a chemical combination and will remain stable and efficacious."

This product would seem to be all that is required, and, indeed, in my experience, it has answered every purpose most admirably, presenting none of the objectionable features before alluded to. Further comment would therefore seem superfluous. It may be well to remark, however, that such an oleate of copper, as well as all other oleates thus prepared, is, to all intents and purposes, a saturated solution—that is, we have in this unctuous substance the analogue of a saturated solution of potassic chlorate or other salt.

In its application dilution is necessary, and this is easily accomplished by the addition of cosmoline, so that the varying strengths of ung. cupri oleatis (so called)—10, 20, 30, 40, 50, or any per cent.—may be readily encompassed by the means stated.

Having at command, then, so admirable a weapon as this preparation of copper in combating those disfiguring diseases known as the parasitic, it remains to be seen how wide is the scope of its usefulness, and how it may be used to obtain the best results.

As has already been stated, the oleate of copper is a comparatively recent addition to the family of oleates, and, had not exceptional opportunities presented themselves for experimentation, I should not feel justified in ascribing to it the decidedly curative properties that I now so freely concede to it. I am aware that some others have not accorded it the almost specific action that I attach to it, and I cannot understand why the drug has not yielded in their hands the expected results, unless it be that a sufficiently strong ointment has not been used.

The exceptional opportunities just alluded to have enabled me to observe its curative action in types of parasitic disease of the skin not, to my knowledge, heretofore treated with it; or, if they have been, certainly not to any extent. Ringworm, both of the head and of the body, has been the disease in which the remedy has found its greatest use heretofore, and those who have employed it here will agree with me, I think, in speaking well of it. My investigations have led me to treat no fewer than *seven* different forms of parasitic disease of the skin with the preparation. By this I mean *practically* seven different forms, although in theory they number only *four*, since several of them are caused by the presence of the same parasite. The scope of usefulness of the remedy, then, so far as my observation goes, is confined to practically seven diseases, viz.: *Tinea tonsurans, T. circinata, T. kerion, Eczema marginatum*—all caused by the same parasite; *T. sycosis, T. versicolor*, and *T. favosa*—each due to a separate parasite.

My plan of treatment is as follows: If affecting a hairy part, first of all cut off the hair close to the skin wherever a diseased patch shows itself, the clipped area extending at least one inch, and oftener one inch and a half, beyond the margin of the advancing lesion. Having done this, the parts are then anointed with oil, fluid cosmoline (petroleol), or glycerin, or a bread-and-milk poultice is applied. This for the purpose of dislodging scales or crusts if any be present. For the same purpose, when very much scurf or actual dirt is accumulated upon the parts, as is not infrequently the case, especially in public practice, I occasionally direct the parts to be thoroughly scrubbed with Castile soap and warm water. Then an ointment of the oleate of copper, of a strength suited to the severity of the case, is prescribed, and ordered to be rubbed into the diseased patches, gently but thoroughly, so as to procure as complete and rapid absorption as possible. If an exposed part, as in the case of ringworm of the head, it may be lightly covered with some appropriate material, or left bare, as the judgment and exigencies of the case dictate. The process of inunction should be repeated at least twice daily, this being usually amply sufficient. Unless an accumulation of scab-like substance should appear, it is not necessary nor even desirable that the part be washed except at infrequent intervals. No set prescription is used—that is, in relation to strength—some cases requiring but a mild application, while others call for a very strong ointment. The following prescription illustrates the average range of strength in which it is most frequently employed: ℞. Cupri oleatis, ʒ j–vj; ung. petrolei, q. s. ad ℥ j. M.

As will be observed, the quantity of oleate varies from one to six drachms in an ounce. In mild cases the first serves a very good purpose, fulfilling easily every indication. For the severe and obstinate forms the six-drachm ointment (or even stronger) is, of course, indicated. Between these two extremes I choose a strength which the judgment indicates as being best suited to the case. Not infrequently a change for the better is observed after the second or third application, and, more especially if the case be of a mild character, often seven or eight days suffice for a cure. If, however, it is severe, a longer time is required, varying from ten days to three weeks. Exceptionally obstinate cases require even longer periods than this, but these are comparatively rare.

According to the statistics furnished by the superintendent of a charitable home for children under my charge, the shortest time required for cure was one week, which is a very fair result in consideration of the fact that the patients were not seen personally by me, but treated by the matron from my written instructions. Less time than this has sufficed where the person treated has been under immediate supervision, for then the strength of the ointment can easily be increased if the circumstances of the case require it. As showing another result, the same report refers to another case which was under treatment for a period of upwards of *six weeks.* Here the prolonged recovery is easily explainable by the ointment prescribed not being strong enough. (The paper is based upon the observation of 500 cases).—*New York Med. Journal, Aug.* 1884, *p.* 225.

89.—ON SOME NEW METHODS IN THE TREATMENT OF DISEASES OF THE SKIN.

By George Thin, M.D., London.

Professor Pick, of Prague, has introduced a method by which the skin can be completely protected from atmospheric influences by the use of gelatine. When ordinary commercial and clean white gelatine is allowed to absorb double its weight of distilled water in a water-bath, it forms an useful vehicle for the application of medicinal substances. When melted gelatine is brushed over the skin, and allowed to dry, it forms an impermeable coating, which remains for some time in position without any further dressing. A simple gelatine-dressing of this kind is especially useful in cases which it is necessary to give protection to a large extent of the surface of the body; but it is especially as an excipient for various medicaments that Professor Pick recommends the gelatine-solutions. The substance which it is intended to use, whether it be salicylic acid, chrysarobin, carbolic acid, pyrogallic acid, iodoform, or naphthol, is well stirred into the melted gelatine, and, when the gelatine cools, the resulting gelatine-cake contains the medicine in a known proportion. When the patient uses the remedy, he melts the portion of gelatine in a cup, which is placed in hot water, and applies the fluid gelatine to the affected part of the skin with a brush, and in a short time the layer of gelatine becomes solid. To prevent it from cracking, and to make it sufficiently flexible, especially in the region of the joints, it is lightly touched with a very small quantity of glycerine. Pick's formula for chrysarobin-gelatine is as follows. ℞. Gelatinæ albæ siccæ 50; aquæ distillatæ 100. Solve in balneo aquæ et admisce sub assiduâ agitatione chrysarobini 10. Miscellam sepone, refrigeratum detur ad chartam ceratam.

Notwithstanding the incontestable success of the treatment of psoriasis by chrysarobin (chrysophanic acid), the inconvenience attending its use, as it is ordinarily employed, has led to its being much less prescribed than its curative action warrants. The indelible staining of linen, in particular, renders it a very unpopular remedy with most patients. To overcome these disadvantages, Pick specially recommends the use of chrysarobin-gelatine in the treatment of psoriasis. The patient is first well rubbed with soft soap in a warm bath, and then the gelatine is brushed over the psoriatic patches. After it has dried, the spots are touched with a very small quantity of glycerine. In severe cases this process is repeated every second day. In mild cases twice or thrice a week is sufficient. The changes which take place in the skin under this application consist in cessation of the desquamation from the affected spots, and in a diminution of the infiltration. The patches become at first quite white, whilst on their border under the overlapping gelatine the skin is of a violet colour. This is caused by the alkalies contained in the secretions of the skin being deficient in the psoriatic patches.

Auspitz conceived the idea of substituting for gelatine, a solution of one part of purified gutta percha in ten parts of chloroform. The solution he calls *traumaticin*. This preparation adheres perfectly to the skin, and may remain unchanged from two to three days. It forms a coating thinner and more delicate than collodion or gelatine. By itself it is perfectly neutral to the skin, provoking no irritation.

Both traumaticin and gelatine—but the former more than the latter—exercise a certain amount of compression on the skin, and both may be applied to large portions of the body. Whilst the gelatine requires to be softened each time that it is used, traumaticin is always ready for immediate use, and remains free from the development of fungi; whilst, as is well known, gelatine, if not rendered aseptic by the addition of some such substance as salicylic acid, forms a fertile soil for these growths.

In the treatment of psoriasis, Auspitz uses chrysarobin with traumaticin in the proportion of ten per cent. If the affection be very limited, a fresh application is made each day, but if a large extent of surface be involved, it is renewed once in two or three days. As in the case of the gelatine, the removal of the scales from the psoriatic patches is facilitated by the use of soft soap. In twelve cases published by Auspitz, the duration of the treatment only lasted from five to twelve days; and in one half of the cases, it did not exceed seven days.

After having removed the scales from the patches, Besnier brushes over the surface with a mixture of chloroform and chrysarobin in the proportion of 15 per cent. of the latter. In a few minutes after the chloroform is evaporated, the patch is infiltrated with pure chrysarobin; then with a large flat brush he applies a thick layer of traumaticin over and beyond the edge of the patch. The advantages claimed for this mode of application are, greater solidity of the coating, and the possibility of proportioning more exactly the energy with which the chrysarobin is applied to the patch to the degree of infiltration present.

There is no doubt that the unsatisfactory results of much of the treatment of eczema by ointments, is due to the difficulty which is experienced in getting the affected skin well covered with the unctuous application which is prescribed. To overcome this difficulty, Unna conceived the idea of incorporating stout unstarched muslin with a thick layer of ointment. As a basis for the ointment, mutton-fat seemed to him to be the most useful. This muslin-ointment, when closely applied and bound on the skin, secures, in Unna's words, "absolute rest to the integument, prevents rubbing by clothes, and excludes the atmospheric air." These muslin-ointments are prepared spread on one or both sides of the muslin, and consist of a large variety—amongst them being representatives of nearly all the ointments that are in use in the treatment of skin-diseases. To their great utility, I can strongly testify.

As, so far as I know, muslin ointments are at present only made in Hamburg, and patients cannot get them without incurring delay and trouble, I have not prescribed them in many cases in which I should have otherwise done so.—*British Medical Journal, Dec.* 20, 1884, *p.* 1236.

90.—ON THE TREATMENT OF BURNS AND SCALDS.

By J. Walton Browne, M.A., M.D., Surgeon to the Belfast Royal Hospital.

During the past ten years, I have had a very varied experience in the treatment of burns and scalds, in dispensary, hospital, and private practice, and may say that I have tried almost every known remedy, including continuous warm baths, warm water baths with sulphate of iron in solution, white paint in the form of carbonate of lead, the immediate application of saturated solution of soda-bicarbonate, carron-oil, oakum, and the use of many ointments; deriving much benefit from an ointment composed of iodoform, extract of conium, carbolic acid, and spermacetic. From the use of these various remedies I have obtained more or less success; but the local treatment which I wish especially to bring before the notice of the Section is the application of a solution of chlorate of potash. In doing so I do not imagine I am communicating any new or original method of treatment, but merely wish to urge the use of a remedy which has proved highly beneficial in many dozen of cases.

I know that the treatment which I advocate has been tried by some of my medical friends and found wanting, but I feel confident the non-success arose simply from the fact that the lotion was not applied of the proper strength and with sufficient frequency.

This treatment was first recommended to me by my friend Dr. Harkin, of Belfast, who for upwards of thirty years has carefully studied the therapeutical effects of chlorate of potash, and who read a valuable paper upon its uses at our annual meeting in 1879. Dr. Harkin has shown that the salt exercises a most marked influence on all maladies dependent upon defective nutrition, secretion, excretion, aëration, and molecular metamorphosis. We all know its great value in diphtheritic exudation of the throat, gangrenous stomatitis, &c.; but, perhaps, among its very valuable qualities, none is more remarkable than the rapidity with which its application as a lotion repairs the injuries produced by burns and scalds. It is really marvellous how soon the healing process commences after the application of the lotion, and how rapidly the raw surface is covered by the formation of new skin.

In the treatment of burns and scalds of the second and third degree the lotion is especially useful; in many of these cases perfect healing has taken place in four to five days. I could give the histories of many such cases.

In severe burns of the fourth or fifth degree it is also useful, seeming to favour the formation of granulations after the separation of the sloughs, and certainly no remedy which I have tried so thoroughly keeps the wounds clean and sweet.

In superficial forms, after a few applications, a zone of new skin appears at the margins of the broken surface, and proceeds towards the centre until healing is perfect. It is quite common to see a border of newly formed cuticle in the short space of twenty-four hours. The method I adopt is the following. In superficial burns, I direct the blisters to be punctured, and a bread and water poultice to be applied over all the injured surface every fourth hour, until the cuticle has become detached; you generally find this accomplished upon the removal of the second poultice. I then commence the application of the solution of chlorate of potash, five grains to the ounce; pieces of lint of the required size, saturated with the lotion, are applied four times a day. The lint is covered over with gutta-percha tissue or oiled silk; all dressings being retained *in situ* by a bandage. The lotion must not be of greater strength than five grains to the ounce; of this strength it acts as a sedative, although at the same time stimulating the capillaries to the formation of new skin. If applied much stronger it causes pain; in fact, it acts as a caustic. In some cases, where the lint occasionally adheres to the wound, and is difficult of removal, without injuring the capillaries and causing bleeding, I add to the chlorate of potash solution some glycerine, in the proportion of two ounces to the pint. To prevent the lint from adhering to the wound, Dr. Harkin has for years used an ointment composed of chlorate of potash and lard, of the strength of five grains to the ounce.

In the treatment of very deep burns, I advise the application of poultices until all sloughs are separated; granulations then spring up, and nothing seems to increase their activity and vitality equal to the potash solution, of the strength of five grains to the ounce; should the granulations become weak, flabby, or too exuberant, we then use a potash-lotion of the strength of ten grains to the ounce, and at the same time prescribe a mixture of chlorate of potash and tincture of perchloride of iron, to be taken three times a day. At any time, should there be offensive discharges, one can combine the potash-solution with some permanganate of potash.

In the treatment of burns and scalds, the indications are, after promoting reaction and calming the system: 1, to limit resulting inflammation; 2, to promote the sloughing process; 3, to favour the development of granulations; 4, to moderate contraction; and 5, to sustain the strength of the patient during the wasting effects consequent upon the protracted suffering which so often occurs.

I submit that all these indications are fulfilled by the local and internal uses of the salt, the beneficial effects of which, in the treatment of burns and scalds, I have had the honour of bringing before your notice.—*British Medical Journal, Oct.* 11, 1884, *p.* 710.

91.—ON SKIN GRAFTS FROM THE FROG.

By William Allen, M.D., M.Ch., Leadgate, Durham.

Finding that the treatment of granulating wounds by skin grafting is in country practice liable to fall into disuse through the unwillingness of patients to part with the little bit of skin necessary, I have lately been induced to try experiments with other substances as a substitute for human grafts. As the outcome of these experiments, I find that bits of skin from a decapitated frog make grafts which admirably answer all purposes, forming a source of supply always at hand in the country, except during the winter months, being easily applied on account of their uniformity in thickness, and necessitating no pain to suffering humanity. The skin of a single frog yields grafts for an enormous extent of surface, and preserves its vitality so long that, if the patient is at a distance, the portion of skin required can be carried by the surgeon in his pocket for an hour or more without injury, provided it is wrapped up in gutta-percha, or other waterproof tissue, to prevent drying. As witnessed by me in three cases in which I employed this mode of treatment during the month of August, the frog grafts at first act as human grafts are known to do, but later on their behaviour is different. Thus, soon after being applied they disappear, but after a short time they appear again as a thin transparent film on the surface of the granulations, some of the films being raised in the centre and depressed at the edges, forming small conical elevations. At this period the skin at the edge of the wound takes on a very rapid growth, but, curiously enough, the grafts themselves grow but little, and some stop growing altogether, this being so different from what occurs in the case of human skin grafts. If the wound or ulcer is a large one, the rapidity of epidermal growth at the circumference also soon diminishes, unless stimulated afresh by a second application of grafts, so that often a series of settings of grafts is needed before the granulations are closed over with skin. Material for graft making, however, being so easily procurable, the large quantity of seedlings required offers no difficulty.—*Lancet, Nov.* 15, 1884, *p.* 875.

92.—ON PREPUCE GRAFTING.

By R. Clement Lucas, B.S., F.R.C.S., Assistant-Surgeon to Guy's Hospital; Surg. to Evelina Hospital for Sick Children.

Among the disadvantages which may be urged against the practice of skin grafting taught us by Reverdin, are the pain and scarring the patient must suffer to provide himself with the cuticular fragments required to close his granulating wound. Whilst working men yield up their arms without murmur to supply cuticle for other parts, with women the difficulty of obtaining skin increases, and with children it becomes a cruel torture which no surgeon would willingly subject his patients to if he could obtain good results by other means. It is, therefore, at children's hospitals that the difficulty of obtaining skin to cover the enormous granulating surfaces often left after burns is especially felt; and my object in this paper is to point out that at these institutions there is a plentiful supply of skin removed which may be usefully turned to account. The number of children that are brought to these hospitals for phimosis is so great that many days will never elapse without the surgeon being called upon to perform circumcision. In recommending that the skin of other patients be used to assist in the closure of wounds, I cannot too strongly urge that the surgeon should use every precaution, never to lay himself open to the charge of having thereby communicated disease. But in the prepuces of children there is seldom any danger. When, however, balanitis is associated with phimosis, I always make it a practice (for the sake of the child to be circumcised) to cure the balanitis before removing the foreskin. The surplus skin of this part, from its suppleness, thinness, and vascularity, appears to be peculiarly adapted for transplantation, so that I have found grafts from this source adhere when those from other parts have failed. And again, wounds whose granulations appeared coarse and ill adapted for grafting have accepted prepuce grafts when I little anticipated a favourable result. About three years ago a case of acute cellulitis of the lower extremity, which came under my care, resulted in extensive loss of skin both in the thigh and leg. In this case, when the granulations had assumed a healthy appearance, grafts from various sources were placed upon the wound, and I was then favourably impressed with the superiority of the prepuce skin. The coarse skin, with dry cuticle upon it, which may be obtained from amputated fingers, is far less satisfactory, adhering with less certainty and growing with less rapidity. The time which may be allowed to elapse between the removal of the skin and its application in the form of small grafts to a wound I have not accurately determined, but it is probable it may be extended till signs of putrefaction begin to appear. I have not hurried to place these pieces of skin on the wound, and from half an hour to an hour may sometimes have passed before they were made use of. In no case have I placed them in hot water or made any provision for maintaining them at the temperature of the body. If the recipient for the grafts lived at a distance from the person yielding the skin, I believe the skin might be conveyed in a small glass bottle or wrapped in gutta-percha without loss of vitality for some hours. The following case, which has recently been under my care in the Evelina Hospital, will illustrate the value of prepuce grafting in children. It was reported by Mr. Milligan, the registrar.

"M. B——, aged two years and a half, was admitted into the Evelina Hospital for Children on November 23rd, 1883. The child had been severely burned on the abdomen twelve days previous to admission. It was taken after the accident to a medical man, who applied some dressings to the wounds, but from that time till the child was admitted the dressings had been left untouched. When taken in, it was in a most foul and stinking condition, as might be imagined after dressings had been left twelve days. In parts the granulations had literally grown into the dressings, and were torn in removing the lint. The size of the granulating surface was six inches in transverse measurement, and four and a half in vertical diameter. After the wound had been cleaned it was dressed with carron oil. The child was ordered milk, beef-tea, and an ounce of port wine in twenty-four hours. On November 26th, as it was sleeping and eating well, it was put on fish diet. On December 17th, it was noted that the wound, though decreasing in size, was healing very slowly, the granulations being much too vascular and large, bleeding freely at every dressing. Caustic was applied from time to time. On December 30th, the report remarks that the healing was progressing slowly. On January 16th, 1884, there was still an ulcer three and a half inches in transverse diameter and an inch and a half or more in vertical measurement, the edges of which were much raised, and the granulations vascular and unhealthy. Mr. Lucas took the prepuce of an out-patient, whom he had circumcised about half an hour previously, and cut from it about twenty-eight grafts, which he applied so as to form bridges across the wound. These bridges were protected by strips of green oil-silk, secured by strapping. Lead lotion was applied on lint over the wound and gutta-percha tissue externally. The grafts were protected for five days. On Jan. 23rd it was evident that nearly all the grafts were growing. The wound was divided up by bridges, from which cuticle was rapidly extending. On Feb. 1st the wound was very much diminished in size. On Feb. 14th the child was discharged cured."

It is possible that some surgeons may take a sentimental objection to this method of healing large granulating sores; but any such feeling should yield to the excellent practical results which may be obtained by it. The only reasonable argument against it is that disease might by careless grafting be introduced into the system of a healthy child; but this is so remote that with ordinary caution it would be impossible. On the other hand, I believe the prepuce of a child possesses a germinal vitality, which renders it peculiarly serviceable for grafting.—*Lancet, Oct.* 4, 1884, *p.* 586.

93.—A NOTE ON PREPUCE GRAFTING.

By Chauncy Puzey, Surgeon Northern Hospital, Liverpool.

Mr. Clement Lucas's communication on this subject (see preceding article) reminds me of a case bearing upon this subject, which was under my care about a year and a half ago in the Northern Hospital, Liverpool.

A sailor, about thirty-five years of age, sustained a severe crush of the soft parts of his left foot, owing to a spar falling upon it and rolling about on it during a heavy gale at sea. The injury was aggravated by want of attention and exposure to cold and wet for several days, so that when the ship arrived at Liverpool and the man was brought to hospital, the integuments of the foot, from the toes to the flexure of the ankle anteriorly, and as far as the os calcis on the plantar aspect, were sloughing, and soon came away, leaving a large granulating surface all round the foot (with the exception of that part occupied by the fifth metatarsal bone, which part had escaped injury and was covered with sound skin), and from the bases of the toes to the lines before-mentioned, the sheaths of several of the extensor tendons being exposed on the dorsal surface of the foot, and a considerable portion of the plantar fascia having sloughed away. This looked a case which would take months in healing, and in which even then a tender foot, crippled by tight cicatrices, must result—a typical case for extensive skin grafting. Therefore, as soon as the wound was in a clean and favourable condition, I obtained the patient's sanction to the removal of as much skin as might be required from a part where there was plenty—namely, his scrotum. This having been cleansed by the continuous application of carbolised fomentations for a couple of days, I removed two folds of this skin, each about the size of a crown-piece, but oval rather than circular, having previously passed two or three long and thick catgut threads through the folds, near the line of section. One of these pieces was then spread out on the dorsal, the other on the plantar surface of the foot, the catgut being used for tying down the transplants and preventing their tendency to roll up. Carbolised dressings were used, but when they were removed after forty-eight hours, the transplants looked dark and sodden, their cuticle was separating, and the wound had a bad odour. Frequent cleansing, and gauze and oakum dressings, soon improved affairs, but the transplants looked as if they were softening down and would soon disappear. A boy having been found who required circumcision, his prepuce was divided into half-a-dozen pieces, and these were laid upon the wound in various places between the scrotal transplants and the healing edges of the sore. These preputial grafts adhered at once, and the condition of the sore rapidly improved; moreover, in the site of the scrotal transplants, which we thought had failed, new skin rapidly appeared; and in the course of a few weeks the whole of the large granulating surface was completely healed, partly by cicatrisation, but to a great extent covered with healthy skin. Weeks instead of months had sufficed for the restoration of a perfectly useful though rather disfigured foot.

No doubt the prepuce affords much better material than the scrotum, and for large grafts it is difficult to imagine anything better than the prepuce of a healthy infant—thin, soft, elastic, free from fat, and thus readily adapted to any surface. Unfortunately, in these days of children's hospitals, the supply of material in general hospitals is somewhat limited; but, in the case of a male patient, his own scrotum presents generally an abundant supply, though the material is not of so suitable a quality. As Mr. Lucas observes, the principal objection to preputial grafts is purely sentimental; still this objection has no doubt hitherto stood in the way of utilising a material which, in these days of conservative surgery, is too valuable to be wasted.—*Lancet, Oct.* 18, 1884, *p.* 676.

DISEASES OF THE EYE AND EAR.

94.—ON THE RELATION OF CERTAIN DISEASES OF THE EYE TO GOUT.

By Jonathan Hutchinson, F.R.S., Consulting Surgeon to the London Hospital, and to the Royal Ophthalmic Hospital.

I take for the subject of this paper the relations which exist between certain diseases of the eye and gout. We shall have to classify several different forms of disease—for the most part, but not exclusively, inflammations of the iris—to describe their peculiarities, and to examine the evidence which is forthcoming as to their real connection with gout. The inquiry is an important one, for a gout taint is an extremely common occurrence in a large proportion of the British population. The investigation is also in many of its ramifications one of great intricacy and difficulty. Certain facts we shall, I trust, be able to establish with clearness; but respecting many others we shall not be able to get further than the stage of more or less confident inference.

What I may call the primitive conception of gout regards it as due to a state of the blood induced in part by errors in feeding, and in part by defects in assimilation and depuration. It has regard to the food, to the digestive power, to habits as regards exercise, and the integrity of the kidneys. In this form of dietetic or humoral gout the stage of lithæmia is essential, and the final product of deposit of urates in the tissues is almost equally so. We must, however, seek a wider vision than this. As an introductory stage to such wider view, let us imagine the condition of a man who many years ago was subjected for a long period to the ordinary causes of primitive or humoral gout, but who for a considerable series of years has carefully avoided them. In such a person it is easy to see that although his blood may have been long kept free from excess of urates, yet, as the consequence of conditions of long duration in the past, his tissues may have received modification, and may be prone still to suffer in a peculiar manner when exposed to the ordinary exciting causes of disease. In particular, they may be liable to grow old on a peculiar type. Not only are his tissues in general modified, but those of his nervous and vascular systems have probably been especially influenced. Hence the power of control over any process of inflammation, by whatever cause it may have been initiated, is peculiar and effective. If such a man sprain a joint, it will not recover in the way it would have done had he never had gout, yet the joint may nevertheless be very far from assuming a typical gouty state. There may be no tendency whatever to the deposit of urates.

"Hot Eye," Irritable Eyes, Quiet Gout, &c.—There is a condition to which, for want of a better name, I have for long been in the

habit of recognising as "hot eye." It is one of the many curious phenomena which attend quiet gout. I use the term "quiet gout" as distinct from acutely paroxysmal gout. In families liable to gout, for one person who becomes the subject of acute attacks of podagra, what is known as unequivocal gout, there are often half a dozen who are the subjects of minor symptoms which denote a similar tendency. In them the tendency never rises to sufficient height to induce a severe and characteristic paroxysm. They are nevertheless liable, after taking beer or wine injudiciously as to quantity or quality, to experience slight pricking pains in the joints, attended by lithic acid in the urine and other unmistakable signs of the diathesis. In many, these symptoms occur in such invariable association with the causes suggested, that it is not possible to doubt as to their nature. The liability varies with the weather and time of year, and it often ends, unless precautions are taken, in a sharp attack in the great toe. The terms "suppressed gout," or better, "undeclared gout," are often used in reference to it; but since it is simply a minor form of the disease, not in any way suppressed, and certainly not to trained observers undeclared, I prefer the term "quiet." Amongst the frequent occurrences which denote its presence are repeated short attacks of congestion of the eye. Usually one only is affected, but sometimes both. The conjunctive becomes red, and the eyeball feels hot, and pricks, as if sand were in it. The attack may come on within half-an-hour of the meal which has disagreed, and it may last a few hours, or a day or two. Sometimes, owing to interference with the ciliary muscle, vision is slightly dim, and all attempts at accommodation are usually painful. Those who are liable to hot eye not unfrequently in the end suffer from iritis; indeed, it is not unfrequently an introductory stage to that disease. On the other hand, many are liable for years to very frequent attacks of it without apparently any risk of its assuming more serious proportions. In the intervals of the attacks the eye is usually quite well, and it is indeed its definitely paroxysmal character, its sudden development, and very complete and rapid disappearance, which especially mark its arthritic relationship.

In connection with this subject, it may be noted that not unfrequently those who suffer from unequivocal gout experience shoots of sharp pain in the eyeballs, the nature of which they well understand. A man, William B——, aged fifty-four, who had suffered much from gout, and whose father and four of his father's brothers had all had it, complained much of this kind of pain, yet he had never had iritis. When he was gouty he said he frequently had "darts of pain through the middle of each eyeball," and occasionally across the bridge of the nose.

A further practical note I must ask leave to make. It is to the effect that many cases of irritable hyperæsthetic and easily tired eyes in young persons are in association with inherited gout. I feel sure that in some of these cases we are in the present day in danger of pushing the recommendation of spectacles to an excess. Some slight degree of hypermetropia may be detected, and it is assumed to explain the irritability of the eye. Yet glasses do no good, and, in fact, only increase the irritation. In such cases, very often, the real malady is inherited gout.

Arthritic Iritis.—It will be admitted without dispute from anyone that there are several forms of iritis which are arthritic in their origin—in other words, they occur to those who are liable to attacks of inflammation of joints, and the inflammations of the eye occur under conditions similar to those which excite the inflammations of the joint. Both are in some cases prone to occur in an acute but transitory attack. Both are very apt to recur after periods of complete immunity, whilst in other cases both may assume a chronic, persisting, and destructive form. With such features of similarity we are justified in assuming, as, indeed, is done by all authors, that they are due to the same causes.[1] The problem which I have to consider to-night is whether these causes belong to gout or to the rheumatic class; whether they are sometimes the one and sometimes the other; and, lastly, whether they are not in some cases of a hybrid or mixed nature. Permit me briefly to state some of the peculiarities which are to be observed in different types of arthritic iritis; and to ask respecting each what evidence we possess which would connect them with the tendency to gout. Let us take first the common form in which the iritis occurs in acute transitory paroxysms. Of this, good typical examples will be in the memory of us all. Its subjects are usually men, and often of vigorous health, and past middle life. The iritis scarcely ever affects both eyes at the same time, but occurs first to one and then to the other, sometimes keeping to the same eye during several successive attacks, and then leaving it to assail its fellow. The attacks are often acute, beginning very suddenly, and attended with great pain. When they subside, they subside completely, and leave the eye without the slightest degree of irritability. The duration of the severity of an attack may vary greatly at different times in the same patient. The tendency to form adhesions is extremely great. It is very remarkable how, in most cases of this class, the disease restricts itself to the iris, and shows no tendency to disorganise the globe. Thus, a patient in whom, in consequence of repeated attacks, the pupils may be occluded, with the exception of mere pinhole apertures, may yet continue to enjoy very fair sight.

I have the record of a considerable number of cases in which the liability to these recurrent forms of iritis occur in those who were the subjects of unequivocal gout. But there were a far larger number in which the concomitant symptoms were of rheumatic arthritis and not of true gout. The question remains, however, whether this form of rheumatic gout, although unattended by lithate of soda deposit, be not in reality a hybrid disease, possessing, in addition to an unquestionable share of rheumatism, an admixture also of gout tendency. The infrequency of the disease in women, the age, the habit of body, and the mode of life of those who are usually its subject, seem to me to strongly support this view. So does also the extreme severity of the attacks, and their rapid and complete subsidence when once the point is turned. When this form of iritis does occur to women, it is never, I think, so acute or so paroxysmal as in men; and it almost always happens to those whose relatives have suffered from gout.

Various Forms of Arthritic Iritis.—Next to this form of recurrent iritis, and including perhaps some of its examples, I have to mention the iritis which occurs in connection with gonorrhœal rheumatism. All observers will admit, I think, that iritis associated with ordinary rheumatic fever is infinitely rare. So also is it in connection with that type of arthritis to which the name of crippling rheumatism may be given—in other words, iritis in association with either acute or chronic rheumatism is a thing that we scarcely ever observe. In men, however, the rheumatic affections, whether acute or chronic, which are induced by gonorrhœa, are not unfrequently accompanied by iritis. This iritis is less distinctly paroxysmal and much more liable to persist and be destructive than the case in the form which I have just described. My explanation of this is easy. The reason why gonorrhœal rheumatism so often causes iritis is because it occurs usually in the subjects of inherited gout.

A third form of arthritic iritis is one which affects women more frequently than men, which not unfrequently attacks both eyes at once, which is apt to spread to the ciliary region and choroid, to persist, and to prove destructive. In a very considerable proportion of the women who suffer from this form there is a history of gout in former generations.

Another group of arthritic iritis might be constituted of cases in which the malady happens to young patients, and proves but slightly, if at all, liable to recur. These single attacks of iritis without history of gonorrhœa or syphilis, and occurring in young persons, usually, I think, affect the male sex, and almost always there is the history of gout in relatives.

I must just mention, in order to complete my classification, although it is but of little clinical importance, the group of cases in which iritis occurs in association with glycosuria. In these, according to my experience, the patient is almost always the subject of gout also.

To sum up, then, I would say that although in many individual cases of arthritic iritis there may be no proof of liability to gout in either the patient or his relatives, yet the tenour of the evidence in general is in favour of the conclusion that when iritis occurs there is in reality some gout complication. The more purely and definitely is the case one of rheumatism, and the less the probability that iritis will happen. When iritis occurs, the complications are almost invariably those which suggest what we call rheumatic gout rather than rheumatism pure and simple; that the smaller joints are often affected and nodi digitorum present, whilst sciatica, lumbago, and neuralgia are frequent complications. I have elsewhere tried to prove that gonorrhœal rheumatism occurs in nine cases out of ten to those who inherit a gouty constitution, and that it is chiefly this inheritance that gives the proclivity to it. I cannot stop now to recapitulate the evidence on which this belief rests; but if it be trustworthy, it offers an explanation of the fact that iritis is so frequently met with in association with this type of rheumatism.

In certain cases of iritis with arthritic associations, a very peculiar condition is observed. I allude to the filling of the anterior chamber with a soft gelatinous jelly-like mass. This material, which produces an appearance most alarming to the uninitiated, concealing the pupil and suggesting entire destruction of the cornea, is susceptible of very rapid absorption, and may, in the course of a very few hours, clear right away. I believe that in some cases of syphilitic iritis this peculiar form of appearance has been noticed; but if I were to speak from my own experience, I should cite it as a symptom very strongly indicative of gout. I would make the same remark, though with less confidence, respecting the rare cases of iritis complicated with hemorrhage.—*Lancet, Nov. 22, 1884, p.* 901.

95.—ON INSIDIOUS AND DESTRUCTIVE IRITIS FROM INHERITED GOUT.

By Jonathan Hutchinson, F.R.S., &c., London.

I must now enter upon one of the most important topics of my lecture. It is the attempt to prove that there is a very peculiar form of destructive iritis, occurring for the most part in young persons, which stands in all cases in direct relation with the inheritance of a gouty constitution. It does not occur to those who themselves suffer from attacks of gout, but to their descendants.

It was in 1863 that I first saw, at Moorfields, a girl named M——. She was then about eighteen, tall, well-formed, and florid. She was too florid, and the circumscribed areas of colour in her cheeks varied in tint from bright-red to slightly livid, according to the coldness of the day. She was the subject at the same time of a most peculiar form of arthritis of the last joints of all her fingers, and of double iritis. Her right eye was lost and painful, and I accordingly excised it. Her left was saved only by repeated iridectomies, and finally by extraction of the lens. After the last operation she continued for five years to enjoy good sight and was free from relapses. Her fingers also got well. At the age of twenty-six she became the subject of phthisis, and died, I believe, at about thirty. I showed this patient at the Hunterian Society, and drew attention to the unusual features of her disease. Some one present, looking at her hands, remarked, "Surely, this is gout." I took the hint, inquired into her family history, and found that in all probability it was gout. Her father had suffered repeatedly from that malady in an unequivocal form, and he had tophi in his ears. I show you drawings of the state of the girl's fingers. In order to ascertain whether there were urate deposits in connexion with the swellings, I cut into one of the largest and obtained only a soft jelly-like substance. When after some years the swelling subsided, the terminal joints were all left disorganised, and the last phalanges were more or less displaced. There appeared reason to believe that a feeble state of the circulation combined in this case with the gout inheritance.

In 1880 I gave at the London Hospital a second lecture, in which I adduced seven additional cases, making eleven in all. Of these eleven patients, four were females and seven males; but it happened that the most typical and severe forms of disease occurred in females, a fact which my subsequent experience has fully confirmed. In all cases both eyes ultimately suffered, but only in one were both affected simultaneously. In three instances last-joint arthritis—that is to say, destructive inflammation of the last joints of the digits—occurred. In all the cases vitreous opacities as well as iritic adhesions were developed. In most of the cases the eye which was last attacked suffered most, and a decided tendency was shown for the disease to come to an end as the patient advanced in life. In several cases the eye was saved by repeated iridectomies, and in one or two change of climate seemed to be very beneficial.

In all the cases but one the family history of gout was clear and strong, and in the exception the patient was the son of a brewer's man, and his father had died early, so that it was very possible that his proclivities had not declared themselves. In several of the cases the patient had been reduced almost to blindness. In three one eye had been excised, and in one both were quite lost. In all excepting two the disease had begun between puberty and the age of twenty-five; and it would appear to be a fact that the earlier it begins the more severe it is. Such, then, was the state of my facts in 1882, when I put my last lecture into print. I think you will allow that I was justified in avowing a strong belief that inherited gout was the real cause of this peculiar form of iritis.

That I may add a little more colour to my picture, I will ask your permission to state briefly the facts of three cases which have come under my notice since the date referred to. They are all cases of great interest; and two of them illustrate a fact which I had previously only once or twice noticed—namely, that there is a tendency to the formation of cataract.

The last case which I have seen is that of a Miss D——, aged thirty, the daughter of a surgeon in the country. She was brought to me with the left eye quite destroyed and the right nearly so. In the left an opaque lens had undergone spontaneous absorption, and the iris was everywhere adherent to the opaque capsule. In the other the lens was half opaque, and the iris extensively adherent. I was told that I had myself seen this patient ten years before, and had then recognised only commencing cataract in both. The patient's father, an intelligent medical man, was astonished when I told him that there had been extensive iritis, and assured me that his daughter had never had any attacks of inflammation. The patient herself said that she had never noticed more than that the eyes had sometimes been red and hot, and would prick a little. We have here, then, a good instance of the very insidious course of the disease. In the left eye there was no perception of light, and very probably the vitreous was affected. I found on inquiry that in Miss D——'s family there had been much gout. She herself appeared to be in good health.

Mrs. O—— is a young married lady who has borne three children, and during lactation in each instance suffered from a chronic form of almost painless iritis. Both pupils are almost excluded. Her father has suffered gout, and several other near relatives. She is of feeble circulation and liable to chilblains.

I have kept one of my best cases to the last. Miss L——, aged twenty-two, is the youngest of a family of eight, and was born after the death of her father, who had suffered much from "chalk gout." Her eldest brother has had both gout and rheumatism, and there is rheumatism also on her mother's side. Miss L—— began to suffer in her eyes at the age of twelve, and at first it was simply redness and irritability, with "black specks," "balls," and mist. At the age of fourteen she had a severe attack in both, and was several months under Mr. L——'s care, being almost blind. From this she recovered, but at eighteen a surgeon in Liverpool performed an iridectomy on the left on account of exclusion of the pupil. A little later Mr. C—— did an iridectomy in the right. Neither of these operations resulted in any improvement of sight. In 1880 a surgeon in Leeds removed a soft cataract. The eye was lost, and Mr. C—— excised it a few months later. Miss L——'s present condition is that with the one remaining eye she can just puzzle out $\frac{20}{200}$. Could I possibly produce before you a more marked example of an insidious destructive disease, progressing in spite of the most highly skilled assistance to its melancholy end? Yet it is only a fair example of about half those included in my series.—*Lancet, Nov.* 29, 1884, *p.* 945.

96.—ON RELAPSING CYCLITIS.

By Jonathan Hutchinson, F.R.S., &c., London.

There is a peculiar form of chronic inflammation of certain parts of the eyeball which clinical observers have recognised under the name of "relapsing cyclitis." It is a cyclo-kerato-iritis involving the ciliary region of the sclerotic, the adjacent part of the cornea, and the iris. Sometimes one of these structures suffers more than another, but usually all are involved. It seldom damages the pupil itself much, seldom invades the centre of the cornea, or only very late in the disease, and it does not show much tendency to involve the choroid or vitreous. It usually begins in one eye and only affects the other after a long interval, and to the last one usually suffers more severely than the other. It may begin in early life, but often does not do so till middle periods. When once it has begun it never wholly leaves its victim, but continues either to persist with slow chronicity, or recurs over and over again after intervals of health. It causes scars in the ciliary part of the cornea, thinning and discolouration of the ciliary region of the sclerotic, and ends either by inducing staphyloma or by making the whole cornea dull. It may occasionally become needful to excise the eyeball on account of the persisting irritability combined with great impairment. It affects, I think, women more frequently than men. It is a very peculiar type of disease, and it would not be difficult to place side by side a group of examples of it all exactly alike. I know of no treatment short of a complete change of climate which does much to benefit it. In this respect it is much like the form of iritis which I believe to be a direct result of inherited gout. Yet I am by no means in a position to produce before you, respecting relapsing cyclitis, such evidence in reference to its gout origin as that which we have been discussing. I dare not, indeed, do more than suggest that it is very probable that in some cases the constitutional cause of this destructive and persistent disease may be gout. I have found a gout history in some of my cases, but in others it has been absent. The last case which I have seen has been the one in which this suspicion was the strongest.

Miss D—— is the daughter of a medical friend. She is now forty, and she has suffered all her life from her eyes. She was treated when two years old by Mr. McMurdo for what was then called strumous ophthalmia, and which proved very intractable.

Since then she has had numberless relapses, and in both eyes the cornea at its edges has become extensively opaque. Her left eye is the worse, and has recently been so troublesome that I was inclined to recommend its excision. It is by no means a blind eye, but the cornea is so hazy that it is of little use. Now, say that we have here a case in which strumous ophthalmia has persisted through life, let us ask what is the constitutional peculiarity which has conduced to this exceptional result. The lady has been well cared for all her life, she shows no other signs of struma, nor are such present in any of her relatives. Her father is a robust man. Mark that both eyes have suffered, and that in both it is the peripheral parts of the cornea which have been chiefly involved. Now, this lady's maternal grandfather and two of her maternal uncles suffered severely from gout, her mother had an attack in her great toe, and even she herself has on one occasion had an attack of it. This strong gout history is certainly by far the most definite fact which I can obtain as explaining the peculiarities of her eye disease.—*Lancet, Nov.* 29, 1884, *p.* 945.

97.—CAN GOUT CAUSE OPTIC NEURITIS?

By Jonathan Hutchinson, F.R.S., &c., London.

Although from time to time strong suspicions have been expressed as to the occurrence of gouty affections of the nervous system, I believe the question has seldom been definitely put, "Does gout cause neuritis?" We know that gout can cause the tissue of a joint to inflame, and that œdematous effusion with cell proliferation, in fact the ordinary phenomena of inflammation, are its results. I shall be much disappointed also if it is not regarded as proved that it can cause the tissue of the iris to inflame in a precisely similar manner and with like results. Can it attack any of the structures of which the nervous system is composed? Can it cause inflammation of ganglia, of nerve trunks or of their investments, or may it indeed attack the central organs? Without venturing to suggest that any of these occurrences are common, it is yet difficult to deny a possibility or even probability in exceptional cases. We can understand the influences that are likely to localise gout; its exciting causes may come into play far less frequently in reference to the nervous system than to the joints, or even to such an apparently exposed part of the organism as the eye. Still, if we admit that in the gouty condition inflammations may attack the cellular tissue in any part of the body, it is difficult to suppose that the cell elements which enter into the formation of nerve trunks, for instance, will always escape. I am glad to note, in the progress of neuro-pathology of the last few years, that there seems an increasing tendency to recognise the possibility that not a few nervous affections may be due, not to central disease, but to primary inflammation of the connecting trunks, or of the peripheral organs. We know, for certain, that chronic neuritis, probably beginning peripherally, is a part of leprosy. It is highly probable that it is often a part of syphilis, and quite possible that it occurs also in locomotor ataxy. How else explain many of the transitory forms of ptosis, etc., which occur in the two latter diseases?

Gouty Neuritis of the Optic Nerve.—The question which I now wish to put definitely is, Are there any cases of inflammation of the optic nerve, or of any of the motor nerve trunks of the eyeballs, the direct cause of which is the existence of a gouty constitution? The decision is of importance not only in reference to diseases of the eye, but because it would throw much light on certain other obscure affections met with in this disease. Is sciatica really a neuritis of the sciatic trunk or its sheath? Are any of the forms of gouty neuralgia really produced by gouty neuritis? If the optic nerve can inflame from gout, why not the pneumogastric or the phrenic? I am sorry to say that I have exceedingly little evidence to bring forward in answer to these important questions. I will mention briefly one or two facts which are suggestive, and which I hope will prove sufficiently so to induce a more careful investigation of the subject. In two or three cases I have attended young ladies, of families in which gout had been prevalent, who suffered from attacks of ptosis, with the other group of symptoms referable to paralysis of the third nerve, for which I could find no other more plausible explanation than that they were caused by gouty neuritis. In one of these the attacks were transitory and recurrent, several having occurred within a period of a few years. I must not venture to trouble you with details of these cases, but feel myself obliged to speak rather more at length concerning one in which the optic nerve itself was inflamed, there being, I think, fair reason to suspect that the cause was inherited gout. A young lady, aged sixteen, was brought to me from Ipswich, on account of blindness of one eye, in July, 1879. She had no other symptoms whatever, was florid, and appeared to be in good health. The ophthalmoscope showed nothing but what was quite normal, and had it not been that her pupil dilated more widely when the other was covered, I might have suspected that she was feigning. A week later the changes were conspicuous, the disc being much swollen and its margin concealed. Under treatment by mercury combined with quinine, in the course of a few weeks the attack had passed away, but the disc was left pale. Four years later I saw this patient again with similar symptoms in the other eye, and I was now told that she had several times suffered from transitory attacks, which always occurred during spring. Her health remained perfect. There was a strong history of gout in the family, both her parents having suffered repeatedly. It seems to me not at all improbable that these recurrent attacks of transitory neuritis were really of a gouty type. In saying this, I have regard to the entire absence of the more ordinary causes and concomitants of optic neuritis, to the recurrent nature of the affection, its want of symmetry, and the exceptionally strong family history, both parents and many other near relatives having suffered. I cannot call to mind any other case of recurring optic neuritis, with gout history, which I could at all fairly place side by side with this one. I have, however, several times seen optic neuritis occur in women who were of gouty family without any of its ordinary accompaniments, and clear away entirely under treatment. In none of the cases of which I am thinking did any recurrence take place, and in most of them both eyes were simultaneously attacked.

Other forms of Gouty Neuritis.—Before quite taking leave of this important question as to the possible occurrence of gouty neuritis, I must trouble you with yet one other case. A lady, of fifty-six, came under my observation, in whom for several weeks the left facial nerve had been quite paralysed. I observed at once that she had had two large iridectomies done downwards and outwards, and on inquiry found that she was nearly blind. It was twenty-three years since she had first noticed cobwebs before her sight, and fifteen since she had last been able to read. The iridectomies had been done six years, with what object I do not know, for although she said that she had once had rheumatic inflammation of her eyes, there did not appear to be any adhesions. In each eye the lens was partially opaque, and in each there were extensive choroido-retinal changes with pigment deposits and waxy atrophy of the discs (a peculiar form of retinitis pigmentosa). Mrs. H—— told me that she had a sister who also had "amaurosis." I persuaded her to bring her sister, and may now state the family history which belongs to them both. One of their brothers suffers not unfrequently from attacks of unequivocal gout, and a sister is crippled by rheumatism, but their parents died aged, and are not known to have suffered. The elder of the sisters, aged sixty-nine, has herself had gout, and describes her great toes graphically as having been swollen and red like tomatoes. This sister, after her first confinement, aged twenty-seven, had an attack in her eyes which lasted several years, attended by great pain and intolerance of light. Her recovery from it was very gradual, but finally it was almost perfect, and I could now find no material changes. For several years she has been very deaf, and she has suffered severely from neuralgia and chronic arthritis of wrists and fingers. Once she was told by Mr. Critchett that she had "gout in the eyes." The younger sister describes ten years ago an attack of shoulder neuralgia attended by torticollis, which kept her in bed six weeks, and was accompanied by agonising pain, as if her arm were in the fire. She also has suffered most severely from neuralgia on many occasions.

Here, then, is a family so definitely gouty that a brother and sister have each had true gout, and several other sisters are crippled by rheumatism; one sister has become almost blind with neuro-retinitis, and has suffered from neuralgia, torticollis, facial paralysis, and an attack which was probably neuritis of the brachial plexus. Another sister is deaf, has been all her life liable to neuralgia, had a several years' attack of pain in her eyes which was called "amaurosis," and in later life one which was named "gout in the eye." It seems highly probable that we have here an instance of gout, affecting, at different periods of life in each sister, different parts of the nervous system, and attended by true neuritis of various nerve structures.—*Lancet, Nov.* 29, 1884, *p.* 946.

98.—ON RETINITIS HEMORRHAGICA AND ITS CONNEXION WITH GOUT.

By JONATHAN HUTCHINSON, F.R.S., &c., London.

There is a definite and well-characterised affection of the eye which claims conspicuous mention in connexion with our subject. Retinitis hemorrhagica is very rarely indeed seen excepting in those who are themselves gouty. It is a disease of middle life or of advancing years, and in its more typical forms is never seen in the young. It seldom happens to both eyes at once. It is attended by great swelling of the disc and adjacent parts of retina, and by such turgidity of the central vein that I was at one time tempted to believe that it depended primarily upon thrombotic phlebitis of that vessel. It is possible, however, that such is not its true pathology, and that the venous distension and stasis, perhaps in some instances thrombosis, are really secondary to the neuritis. If this be the fact, and neuro-retinitis be the primary condition, then we have in retinitis hemorrhagica an instance in proof that acquired or humoral gout may become the cause of neuritis. It is not, I think, ever seen in association with the inheritance only of a gouty constitution, but is found with lithæmia in free livers who have usually experienced unequivocal attacks. The case which Jaeger took for his beautiful plate in illustration of the disease was that of a tavern keeper of plethoric habit and bloated appearance. Nothing is said as to gout, but it is fair in such a man to assume that there was a tendency to it. In order to determine statistically, as far as practicable, the association of retinitis hemorrhagica with gout, I have tabulated twenty-four cases, with the exception of the one of Jaeger's all from my own note-books. In twelve of these, exactly one-half, the patient had suffered definite attacks of gout, and in five others there was strong presumptive evidence of a gouty constitution. In seven there was no proof of gout. This last group comprises two in which diabetes was present, one in which albuminuria existed, and two in which the retinitis was not very well characterised as of the hemorrhagic group. If I had kept more closely to the type of cases illustrated by Jaeger's portrait, I should have been able to make yet stronger statements as to the almost invariable association of the disease with gout. It may be of interest to state a few other facts deduced from my table. Thirteen of the patients were men and eleven women. The youngest was forty-five. In seventeen cases only one eye was affected, and in seven both. In some cases there were hemorrhages only, with little, if any, evidence of neuro-retinitis.—*Lancet, Nov.* 29, 1884, *p.* 947.

99.—ON THE PROOFS OF GOUT IN RELATION TO DISEASES OF THE EYE.

By Jonathan Hutchinson, F.R.S., &c., London.

It may be, perhaps, convenient to say a few words as to the kind of evidence which justifies a diagnosis of gout as the cause of any particular disease of the eye. In the case of humoral or acquired gout, there ought to be the history of one or more definite attacks of joint inflammation, usually of an acute character, and attended by redness and œdema, and followed by peeling; usually the great toe will have been the joint affected. Such patients will often state that they are very susceptible to the influence of beer and wine, and that malt liquor and some wines almost always cause indigestion and make the urine muddy. These dietetic disturbances, to which as a test of gout attention was, I think, first claimed by Sir James Paget, are very important and valuable. If tophi are present in the ears or elsewhere they are of course conclusive. In a few cases we are justified in assuming the existence of humoral gout, although no paroxysm has ever occurred. If the dyspepsia be there, if the joints ache and prick after beer or wine, and if there be gout in relatives, we may confidently believe that it is present, although not yet declared. As regards the inherited form, we may take it as highly probable whenever parents or grandparents, or any one of them, are known to have suffered definitely. If even uncles, aunts, brothers or sisters, or cousins, have suffered from true gout in early life, the belief that a family taint exists becomes very probable. The evidence must always be carefully sifted. It will not do to take the statement of the patient without first carefully informing him as to the scope of the inquiry. Patients will often confess to gout who do not know what the word means, and a far more numerous class will hastily deny its history, although the facts, when correctly obtained, may be most conclusive. If, however, proper care be taken, and the patient, after being instructed, be allowed time for consideration—above all, if the inquiry be repeated after an interval, or if several relatives be interrogated—then I believe that in most cases truthful data will be obtainable.

It may be inquired as to the value of certain affections which may be considered to belong both to rheumatism and gout, as symptoms of the latter. Permit me very briefly to repeat my creed. I believe that the subjects of gonorrhœal rheumatism are in a very large majority of instances the inheritors of a gouty constitution, and that all the conditions usually classed as rheumatic gout are really, in most instances, dependent in a large degree upon like inheritance. Thus, if a patient has had sciatica or lumbago, if he shows nodi digitorum (osseous, not tophi), if he has suffered from chronic rheumatism affecting the smaller joints, I should think it fair to allow considerable weight to these facts as pointing to a taint of gout. Even the strictly rheumatic disorders, acute rheumatism itself, if it happens to the relatives of those who have had gout, lends support to the theory of family tendency to gout. It is an observation as old as the days of Heberden, and confirmed I am sure by daily experience, that the children of the gouty are more liable than others to attacks of rheumatic fever. In this we see another proof of the inheritance of structural proclivities, rather, I think, than of blood disorder or tendency to it.

I do not know whether I have to defend myself from the charge of "seeing gout in everything." I am well aware that this diagnosis is a very easy one, and seductively ready at hand for the idle prescriber. I submit, however, that it has not been exactly in that temper that I have brought before you the statements which I have made this evening. My desire has been to state the issues explicitly, and to keep close to facts. Where statistics were admissible and obtainable I have had recourse to them. I may assert that I have said nothing but what has been based, not only upon clinical observation, but upon clinical note-taking, and the subsequent collation of cases. Nor, I contend, have I made any very sweeping statements. So far from my having exceeded the truth, my conviction is that when our clinical pathology shall be more advanced, and diseases more minutely classified, we shall in all probability recognise as gouty yet other maladies, and perhaps not a few beyond what I have claimed. It is a subject upon which scepticism is as irrational as credulity. That the gouty constitution exists, and is very common in our English population, that it is potent in the production of disease, and that it is remarkably hereditary, are facts which no one will doubt. In relation to the multiform diseases of the eye, it must have a domain, and that an important one. To discover some of the extensions and limits of that domain has been the object of my best endeavours.—*Lancet, Nov.* 29, 1884, *p.* 947.

100.—TREATMENT OF ADHESIONS OF THE IRIS TO CORNEA.

By George E. Walker, F.R.C.S., Surgeon to St. Paul's Eye and Ear Hospital, Liverpool.

I have come to look on nearly all cases, even of the most extensive adhesions, if only there be any anterior chamber at all, as susceptible of successful treatment. I venture to offer a few instances of the worst sort for consideration. It is notorious that a very small adhesion of the iris to the cornea renders the eye useless —that is, of course, if the other eye be sound; but if, as occurs in many cases, the other eye be destroyed, the eye is so impaired as to render its possessor a fit inmate of a blind asylum. Yet when the other eye is sound it may be so irritated by the damaged eye as to be rendered of much less use than it ought to be, as in the case of a boy whose education was stopped because whenever he attempted to read, the damaged eye, which had a small pointed synechia very near the centre of the cornea, began to ache and to water, in which action it was speedily joined by its fellow. The division of this adhesion relieved him of all his distress at once. But where it does not cause such active distress as this its influence is bad enough. In a case of similar adhesion occurring in a young man, who had probably passed through such a probation in his childhood, after the division of the synechia, he said, "Before I could only see shadows; now I can see as well as with the other eye." I have at present under my care at the Blind School a young man of about twenty who has one eye totally destroyed, but the other has merely a pointed synechia near the centre of the cornea; the sight is so impaired as to render him incapable of getting his living as a sighted person. I have been unable to induce him to let me relieve him of his embarrassment.

I have selected the following two cases because they appeared to offer the most formidable difficulties in the way of relief:—

A young lady, Miss M——, aged 18, came to me on February 16th, 1884. She had extreme divergence of the right eye, and about half the iris was attached to a vertical scar a quarter of an inch long on the inner side of the cornea at about one-eighth of an inch from the edge. She could make out 30 Snellen by putting the letters close to the eye. As her health was not quite satisfactory I postponed the operation till April 3rd, when I thrust a narrow knife through the outer edge of the cornea at the horizontal meridian, getting the point as far under the lower edge of the synechia as I thought I should be able to cut; I then used the knife lever-wise, cutting upwards. In this case I used eserine several times before operating, so that the iris was completely taut, and after the operation atropine with great frequency. Next day, when the pupil was dilated, it was found that a very considerable portion had been freed by the incision, and the pupil was much larger. There was little reaction, and on the 17th I attacked the upper part of the adhesion in a similar way, this time, of course, cutting downwards, with a still further gain of pupil. There was after this also little reaction. The pupil dilated now, so that one could see that the lens was absorbed, leaving the capsule fairly transparent, with the exception of a white bar of opaque membrane running almost vertically across the pupil. On May 7th I performed a larger operation to sever the iris running between the scar and the inner edge of the cornea. This was obviously a matter of greater difficulty than that of severing the upper and lower part of the iris, for the latter could be put upon the stretch either by eserine or atropine; indeed, when unaffected by drugs it was on the stretch, therefore separable with comparative ease, whereas that going from the inner edge of the ciliary region to the vertical scar was slack and incapable of being stretched. I used eserine, but I think it did not help at all. On this occasion I operated differently. I fixed the eye at the inner horizontal meridian, and thrust the knife through the cornea at the lower point of the vertical meridian, then, passing the knife between the scar and the inner edge of the cornea and using it lever-wise, stretched the iris without cutting it, until the point of the knife almost touched the outer edge of the cornea. It was astonishing to see the iris, which seemed to be so narrow, stretch completely across the eye, as a thin bluish veil. When the point of the knife had arrived at the end of this great traverse, I was aware of the iris snapping, but as the aqueous escaped at the same time as I was engaged in getting the knife out of the eye without doing any damage, I did not see how much I had cut; but Mr. Moir, who assisted me, said that there was a great triangular pupil formed. The anterior chamber at once filled with blood, so that it was impossible afterwards to see how much had been accomplished. Of course such an extensive interference with the ciliary region as was involved in the dragging of the inner quarter of the iris across the eye was followed by a serious reaction; yet two leeches in the evening stopped it, and with the aid of mercurial inunction the pain ceased, and the blood was absorbed; whilst in two or three days after the operation it was seen that the whole of the adhesion except a small band at the upper end of the scar was severed. For some time there was no red reflex, so that it was impossible to see what had taken place behind the iris; but the media gradually cleared, and then it was seen that there was a delicate veil-like opacity floating just behind the scar. On May 28th she made out Snellen 15, and later 8. But as my patient has not got central fixation, it is to be feared that the improvement to be expected is rather in the appearance of the eye than its use. It is obvious that had the synechia been divided soon after the injury the eye would have been as useful as a lensless eye can be.

Now, this case of peripheral synechia is one of the most difficult to treat when left alone for a long time. The iris is not on the stretch, but, on the contrary, is folded on itself. It atrophies, for it is never used; whereas the iris when attached to a wound near the centre of the cornea is always on the stretch. But attacked early, these peripheral adhesions are by no means difficult to treat, as will be seen by the following case.

A. B——, aged 42, was struck on the eye by a piece of metal, which produced a wound of the cornea, beginning at the outer edge at a point midway between the horizontal and upper extremity of the vertical meridian and extending vertically downwards below the horizontal. In this the iris was engaged. I tried to thrust this back by pressing it through the wound with the back of a knife, but in vain; so waiting a few days, I operated as I did in the case of Miss M——, thrusting the knife from below, insinuating it between the wound and the outer edge of the cornea, and then pressing the iris towards the centre. The iris was disengaged from the wound without being cut; the lips of the wound closed without escape of aqueous; and, with the exception to be noted, all soon became well. The exception was this: I found, a few days after the operation, that although all the pupillary edge of the iris was free from the wound, a little of the outer part of the iris was engaged in the upper end of it. However, the man found his eye quite free from trouble; he apparently did not share my anxiety to polish the matter *ad unguem*, for a hint at further interference was followed by his ceasing to attend. This "stroking out" of the iris without cutting seems to be a very valuable addition to our therapeutics, but its applicability is limited. I tried it soon afterwards in another case; but the eye was not stiff enough, for the attempt simply caused it to "buckle."

I now come to a case which, I think, deserves to wind up the series. A young gentleman, aged 9 years, was brought to me by his mother on Feb. 18th, 1884. She stated that three years before he had accidentally been stabbed in the eye with a pen. I found a starred scar in nearly the centre of the cornea, to which all the iris adhered, except enough at the lower and inner part to form a pupil, after free use of atropine, as large as a pin prick. The upper and inner quadrant of the edge of the cornea was so flattened by the piece of the imprisoned iris that at first sight the eye seemed hopeless. But I found after a prolonged examination that he managed with much oscillation of the eye and movement of the paper to make out No. 200 of Snellen, and I therefore decided to attempt to save the eye instead of advising its excision, as at first I was inclined to do. On the 23rd, assisted by Mr. A. Moir, after using atropine freely, I chloroformed the patient deeply, and then fixing the eye at the upper and outer part, thrust through the cornea at its outer edge, a little below the horizontal meridian, a narrow knife, fresh from the cutler, between the iris and the cornea, until the point was well beyond the inner edge of the adhesion; then by raising the handle and using the knife lever-wise depressed the blade against the tightened iris. To my delight the whole of the iris, except a minute bit at the lower and outer part, which indeed could not be influenced by the knife in this position, gave way. Atropine was freely used afterwards. The eye gave little trouble, although the boy suffered a good deal from the effects of the chloroform. This was due to his digestion being deranged, but the treatment to which he was subjected for this enabled him to bear three subsequent chloroformings without any trouble. He had now, instead of a pinhole pupil, a good sized one, and on March 6th, with a $2\frac{1}{2}$ + he made out a few of the letters in 20 Snellen. By this time we could see that the lens had been wounded, as indeed we had inferred. He was then sent home. On March 21st he read 15 Snellen, and on that day I divided the remaining bit of iris, using the knife as before, excepting that the eye was fixed below, and the knife made to cut upwards. The pupil further dilated, and the reaction was so small that he was able to go home on the 27th. On April 17th he could spell 1·5 Snellen. I now could get a thorough examination of the pupil, when I found this condition:—After the first cut the inner central part of the iris had fallen on, and adhered to, the capsule of the lens; but that the upper was free. From the outer edge a filament of brown tissue extended to the scar. How this came about I cannot be certain; but I imagine the aqueous escaped, after the last operation, during retching, and that the edge of the iris became attached to the scar for a short time, and then receded as the aqueous was restored, leaving the spider-like thread of uveal exudation. I wished at the next operation to divide this, and to cut the capsule; but the knife was bad, and let out the aqueous as soon as I used it lever-wise. However, I found that I had divided the filament, and, although I had not cut the capsule, I had disturbed it so as to let the pupil dilate considerably. On the 22nd his vision was $\frac{10}{30}$, and on the 29th $\frac{10}{24}$. On May 14th I made an incision in the capsule, and got a good-sized pupil, the operation causing no shock to the eye; on the 19th his vision was $\frac{1\cdot5}{6}$ m., and Jaeger 1, and on the 24th $\frac{1\cdot5}{5}$ m. Of course this case is exceptional, and one must expect few of such brilliancy. I think, however, I have shown that it is possible to give relief in a class of disease the formidable nature of which was well summed up by an ophthalmologist of the very highest repute on the Continent, who, in reply to my telling him that I was in the habit of dividing anterior synechiæ, said, "You had better leave them alone; you will do more harm than good."

Finally, in performing these operations it is necessary to bear in mind these two axioms: first, you must make your corneal puncture at such a point as will afford the greatest sweep of the knife; and, second, that you should so manage the heel of the knife as to cause no loss of aqueous until the adhesion is severed. It is not always easy to decide beforehand whether a myotic or mydriatic should be used. One would think that for a central adhesion a mydriatic would be always the best, but in one case I failed twice to cut a central adhesion under the influence of atropine; whereas in a third attempt under eserine it gave way at once. Another point: the knife ought to be fresh from the cutler. I seldom attempt more than two or three such operations with one knife, which of course afterwards will do quite well for operations of inferior delicacy.—*Lancet, Jan.* 31, 1885, *p.* 197.

101.—ON THE TREATMENT OF PURULENT OPHTHALMIA BY PROLONGED ANTISEPTIC IRRIGATION.

By Edgar A. Browne, M.R.C.S.Eng., Surgeon to the Liverpool Eye and Ear Infirmary.

In purulent ophthalmia, the indications of treatment are (1) to wash away the infective material as thoroughly and as early as possible; (2) to render the conjunctival epithelium and secretions as nearly as may be aseptic. Too much stress cannot be laid on the necessity for securing the most perfect fulfilment of the first of these conditions. On this head, all practical surgeons are agreed. The intensity of an attack is greatly modified by the period at which the first thorough cleansing takes place. We frequently have the opportunity in gonorrhœal infection of forming a rough estimate of the virulence of the discharge by inspection of the penis; and it must have occurred to most of us to have noticed that cases in which the urethral inflammation has been at its height have, when cleansed immediately on discovery, been less violent in their course, and less disastrous in their results, than milder cases which were at first neglected. But the configuration of the upper lid renders thorough cleansing extremely difficult, and perfect antisepsis is, of course, impossible. The main difficulty lies in reaching the upper sulcus. If, in a case of moderate severity, without much swelling, we evert the upper lid, and carefully press the conjunctival *cul-de-sac* into view, by means of a probe, we often find, even immediately after a dressing, that this important portion of the mucous tract has neither been effectually cleansed by the washing, nor affected by the astringent. In other words, the strongest focus of infection receives the weakest treatment. To obviate these disadvantages, I have employed a *lid-irrigator*, which enables us to throw a stream of pure or medicated water into the sulcus for any length of time we please.

The instrument resembles an ordinary lid-elevator, but is rather deeper in the claw, and constructed of hollow-plated tubing, instead of wire. It is furnished above with a handle, and behind a small curved nozzle is connected by means of an india-rubber pipe, six or seven feet long, with a reservoir capable of containing about a quart of solution. The limb that passes beneath the upper eyelid is pierced with six fine holes, through which the fluid issues as a douche. A stop-cock, or spring-clip, is provided to regulate the flow. In use, the reservoir is filled, and hung up. The surgeon or attendant stands behind the patient, who holds his head slightly inclined over a basin. The elevator is gently insinuated under the upper lid, and the stream turned on.

The points requiring attention are these:—1. it is necessary to ascertain that the orifices are patent; they are liable to become clogged; four in full play are sufficient. 2. the reservoir must be well elevated to give a good fall, and it must be nearly full to give a good pressure. I generally have a cord run over the curtain-pole, or a picture-nail, so as to get the greatest elevation the room will allow. The jets should be about a foot high when the instrument is held free from the eyelid. If the play be not free, we do not attain our object. 3. The application must be prolonged; a quarter of an hour for a first dressing is the minimum I should allow myself. In severe cases, a longer period is advisable. The points aimed at are: continuous flow and prolonged soakage. Now, as to the fluid to be employed. An antiseptic that shall be effective, and yet not too strong; a tissue-irritant is required. I have tried a great number of substances at one time and another, but latterly my inclinations have set in rather strongly towards a preparation of trichlorphenol. I was first attracted by an account in the London Medical Record for April 5th, 1883, of trichlorphenol as an antiseptic, by Dr. Dianin of St. Petersburg. He recommended a solution of trichlor-phenolate of calcium as an application in erysipelas. But the calcium solution is not fitted for eye-work; it deposits a precipitate; it is not easy to make or preserve at an uniform strength; and some specimens have unaccountably changed colour. With the assistance of Messrs. Clay and Abraham, I have managed to attain a satisfactory solution with a magnesia base. It can be made of a uniform strength of 5 per cent.; it is stable and free from particles.

Trichlophenol—that is, carbolic acid with three atoms of hydrogen replaced by chlorine—is said to be twenty-five times more powerful as an antiseptic than carbolic acid. I have no means of judging of the truth of this statement. Practically, I find a two per cent. solution amply strong enough for the first applications in gonorrhœal ophthalmia, and one per cent. for average use. It gives rise to a good deal of smarting, which ceases directly the flow is stopped. Some skins are easily irritated by its flow over the cheek; the majority are not affected. The skin may be protected by vaseline if necessary. I use it twice a day, for about a quarter of an hour. In one very severe case I have used it three times a day. As the case progresses, a one per cent. solution is sufficient; in some, a half per cent. In order to test the antiseptic value of the solution, I asked Dr. Alexander to allow a certain number of cases of gonorrhœa to be treated in the Lock Hospital of the Liverpool Workhouse. The method of irrigation was employed by means of an elastic catheter passed into the urethra, and an elevated reservoir. Twelve cases were treated, with an average of nine days' treatment; the longest case occupying eighteen days, the shortest three, one four days, and three of six each. The cures were complete. Some credit is doubtless due to the method of irrigation.

This is, I think, a sufficient test to warrant me in recommending this solution for further trial. No remedy, no method of treatment, can have its real value appraised till it has passed through many hands. As regards the value of the method of prolonged irrigation, I have no doubt; and I feel justified in recommending the little instrument shown as a convenient and efficient means of employing it.—*British Medical Journal, Jan.* 10, 1885, *p.* 69.

102.—ON THE USE OF ATROPINE IN THE DIAGNOSIS OF ERRORS OF REFRACTION.

By Henry Juler, F.R.C.S., Junior Ophthalmic Surgeon to St. Mary's Hospital, London.

In myopia, where the vision can be improved up to the normal standard ($\frac{6}{6}$ and 0.5 Snellen) by means of spherical glasses, we are tolerably safe in prescribing the glass thus indicated.

In hypermetropia occurring in patients upwards of 20 years of age, the highest spherical glass thus indicated may also be recommended; but, in patients under 20, and especially in children, it is better always to paralyse the accommodation. In persons over 40, atropine is never necessary, owing to the natural weakness of the accommodation.

In astigmatism, whether simple, compound, or mixed, my experience is that no certain reliance can be placed upon the use of cylinders, unless the accommodation has been previously paralysed. A patient suffering from hypermetropic astigmatism, for instance, may be enabled to read $\frac{6}{6}$ with a concave cylinder, but such a glass could only be tolerated for a short time.

When the vision cannot be improved up to the normal standard by means of trial glasses, I consider that the accommodation should always be paralysed; otherwise, we have no means of ascertaining positive data as to the refractive condition of the eye, and the glasses prescribed may be only approximately correct, or they may be altogether wrong. We are, in fact, unable to decide positively whether the defective vision be due to spasm of the ciliary muscle so often present in hypermetropia and astigmatism; whether to hysteria, hypochondriasis, to stupidity on the part of the patient, or even to malingering.

To illustrate my meaning as to the utility of using atropine, I will refer to a few typical cases which have recently occurred in my own practice. A boy, aged 12, presents himself, complaining of defective vision. With each eye he can see $\frac{6}{24}$ of Snellen, and concave glasses improve his vision to $\frac{6}{18}$, but no further. Convex glasses do not relieve him. By the ophthalmoscope and shadow-tests, he appears to be myopic. The fundi are normal, except that the optic discs are congested. Atropine drops, of strength one per cent., are prescribed, to be used three times daily for a week, when it is found that he has 8 D of hypermetropia in each eye. He has worn concave glasses for two years; these make his vision worse while using them, but he persevered because the prescribing surgeon was an oculist of high repute. I believe this to be one of a large class of cases of hypermetropia in which diagnosis is rendered difficult by the existence of spasm of the ciliary muscle.

Another condition which is masked by spasm is illustrated by the following case. A lady, aged 30, presents herself, complaining of pain in the eyes and difficulty in reading, and fine work-vision cannot be improved beyond six-eighteenths. The ophthalmoscopic and shadow tests indicate mixed astigmatism. Atropine is used, and the case proves to be one of compound hypermetropic astigmatism. The spasm of the ciliary muscle had rendered one chief meridian apparently myopic, and the other less hypermetropic than it should be. Imaginary difficulties in refraction are illustrated by the following case. A man, aged 37, V. = $\frac{6}{6}$, and he can read 0.5 Sn. at 20 to 40 centimètres, but states that his eyes begin to ache and his vision goes entirely after any prolonged attempt at reading or fine work. He has been to various oculists of eminence, who have prescribed weak convex glasses, but without benefit. Atropine is used, and the refractive condition is found to be quite normal. In this case the mydriatic enabled us to exclude any possible latent hypermetropia, and to affirm that the patient was hypochondriacal, the latter diagnosis being confirmed by collateral symptoms. Similar cases to these occur in hysterical patients, in which the use of atropine enables us to state positively the refractive condition, and so to arrive at a conclusion which would be otherwise difficult.

Lastly, the following is illustrative of a large class of cases which come before us, in which the vision appears to be subnormal owing to ignorance, stupidity, or deceitfulness, on the part of the patient, but in which we are called upon to say whether there is ametropia or not. A healthy girl, aged 10, is brought by her aunt, who states that she cannot read either distant or near type. Her parents reside in India, and the child has been entrusted to strangers in

France for her education and maintenance. Her vision is reported to be so defective that all education had been given up. Upon examination the fundus appears normal, and the eye slightly hypermetropic, but she cannot read either distant or near types. Atropine is used, and it is still found that there is only slight hypermetropia (0. 5 S.), and the fact soon becomes evident that the child can see as well as other people, but that her education has been completely neglected. I consider that in this case I could not have been positive that there was only slight hypermetropia, and, therefore, that the child could see, unless I had atropised the eyes.

The cases just quoted will, I trust, make clear my reasons for asserting that, under the circumstances above mentioned, we are by no means certain of a correct diagnosis without previously paralysing the accommodation. To the use of atropine I know there are many objections. The blurring of the sight, by which the patient is incapacitated for fine work or reading, and the length of time necessary for recovery from the effect of the drug, are in themselves serious obstacles. These are shortened in duration by homatropine-hydrobromate, but I have not at present the same confidence in this drug that I have in the atropine-sulphate. Beyond the inconvenience of loss of accommodation, however, I consider the dangers from the use of atropine in persons under 40 years of age to be somewhat overrated; for, although I must have prescribed atropine for several thousands of cases during the last five years, I can only find notes of about a dozen such in which the drug has caused any other inconvenience. Of these atropine troubles, the chief are conjunctival inflammation, and dryness of the throat, which soon passed off with the discontinuance of the drug. From what I have said, it will be evident that, with the exception mentioned, I am a strong advocate for the use of mydriatics in ametropia, and that I have but slight confidence in any tests, whether subjective or objective, when applied to an eye in which the accommodation is active.—*British Medical Journal, Dec.* 27, 1884, *p.* 1274.

103.—ON FATAL MENINGITIS FOLLOWING ENUCLEATION OF THE EYE-BALL.

By A. Hill Griffith, M.B., House-Surgeon to the Royal Eye Hospital, Manchester.

[After giving clinical and *post-mortem* details of ten cases coming under his own observation, the author proceeds:]

As the result of a search through the literature of this subject, I have found recorded or mentioned six cases of death by meningitis following extirpation of the eye. Just records one case. Pagenstecher records one case. Von Gräfe (at the Ophthalmological

Congress at Heidelberg, in 1863) mentions two cases of his own, after incision, during active panophthalmitis. Horner mentioned a case on the same occasion. Asplund had one case, mention of which is made in Hygeia for 1880. These, with the two I have noticed, make a total of eight.

On analysing these cases, we find that the enucleated eye was in a state of panophthalmitis in four, or just one-half. This is strong evidence, in my opinion, of the far greater danger incurred in this condition, for the proportion of enucleations for panophthalmitis must be very small compared to enucleations for all other conditions. In three cases the eye was removed, on account of cuts or ruptures of the globe some weeks previously, the eye being in a painful and irritable condition, but not actually at the time in a state of panophthalmitis. This class would, I imagine, represent the largest number of enucleations. In one case only was the eye perfectly quiet and free from any irritation, the globe being quite shrunken, and the optic nerve quite atrophied and small.

A *post mortem* examination was obtained in five cases, and it will be interesting briefly to note the conditions found, chiefly as regards the meningitis, its character and position. Meningitis of a more or less purulent character was found in every case, but in no instance could any direct connection be found between it and the orbit, at least on naked eye inspection; so that we must believe that, in these cases, the occurrence of meningitis is a mere coincidence, or else that the extension takes place in a way which has yet to be explained. For my part, I think the clinical evidence, absence of previous symptoms of mischief within the head, &c., is conclusive that, at least in the panophthalmic cases, this connection between the performance of the excision and the purulent meningitis is something more than a mere coincidence. And I believe also that, in all these five cases in which we have the result of the *post mortem* examination, the operation of excision was in itself the factor in determining the occurrence of the meningitis, notwithstanding the absence of any naked eye connection. And it might be argued against this, that the meningitis was the result of the panophthalmitis, and would have happened if the excision had not been performed; but this view I am not disposed to favour, because we find that, in cases where death has occurred from meningitis caused by intense inflammation of the orbital cellular tissue, there is a direct connection, easily traced by the naked eye, between the orbit and the meningeal affection.

In conclusion, and as the practical outcome of my remarks, I wish to state that I would not feel justified in enucleating a case of panophthalmitis except under one condition, and that is impending sympathetic affection of the other eye. In this case I should be quite prepared to excise, and trust to the doctrine of probabilities.—*British Medical Journal, Dec.* 27, 1884, *p.* 1273.

104.—ON THE TREATMENT OF DETACHMENT OF THE RETINA.

By J. R. Wolfe, M.D., F.R.C.S.E., Senior Surgeon to Glasgow Ophthalmic Institution, and Lecturer in Anderson's College.

Various means, of both medical and surgical treatment, have been tried in this affection, which has hitherto been regarded by all oculists as incurable, but they have all been abandoned. As I have frequently succeeded in curing patients of detachment of the retina, I am desirous of submitting my mode of treatment to the consideration of the Académie de Médicine of Paris.

Detachment of the retina is produced by an effusion of serum between that membrane and the choroid. The retina thus becomes wrinkled and separated, is brought in front of the focus of the dioptric system, and can easily be seen by the erect ophthalmoscopic image. In the first stage, it shows only a slight undulation. When further advanced, a pale grey elevation becomes visible, which, when the eye is in motion, screens a part of the fundus, and the vessels are seen crossing the surface of the detached portion. This grey opaque body gradually increases in size, and the subretinal fluid accumulates, until no part of the fundus can be seen. Total loss of vision then ensues, and the detachment is said to be complete.

The subjective symptoms are, first, dimness of vision, the patient seeing, as it were, a cloud before him; secondly, the interruption of the visual field, that is, the patient sees when looking in one direction, but, when looking in another direction, a cloud seems to intervene between him and the object. In looking at the light of a lamp, the colour appears of a blue tinge. When the effusion approaches the macula, objects appear crooked, and when the macula itself becomes involved, the optic axis deviates in another direction. When the effusion has once commenced, it continues to develop itself until the whole visual field is abolished, and the patient cannot distinguish the light of a candle moved before him in any direction. It is worthy of note that in some cases of extensive effusion, even that part of the retina which is *in situ*, and still visible by the ophthalmoscope, loses its sensibility to light, because it seems to have, to some extent, imbibed the fluid from the other part.

The description just given is that of the acute form of the affection, which, whether it follow a more or less rapid course in its development, may be traced to a chill caused by a sudden exposure to cold while heated. As a typical case, may be mentioned that recorded by Desmarres, of a lady of distinction, who, in coming from a ball at the Hôtel de Ville on a frosty night, was unable to find her cloak. Too impatient to wait for it, she walked with bare head and shoulders to the carriage, and was instantly taken with detachment of the retina of the right eye. This acute form may also supervene upon either a single attack, or a succession of attacks, of violent epistaxis. The vascular relation between the arteria centralis retinæ, and the orbital and frontal arteries on the one hand, and the Schneiderian membrane on the other, in the case of chill to an overheated face and neck, sufficiently accounts for the phenomena in question; but continued epistaxis may also be the consequence, rather than the cause, of the retinal congestion and detachment. Further, instead of a simple stretching of the retina, a part of it may be torn away, and float as a flap in the vitreous humour.

The detachment more frequently follows a chronic course, and may take two or three years for its development; and in such cases the fluid, instead of being transparent pure serum, is mixed with pigment-granules, and sometimes, though rarely, with white flocculi. This chronic state is caused by acute irido-choroiditis, irido-cyclitis, or, indeed, by any of the various forms of chronic intra-ocular inflammation. It is very fortunate if the inflammation be confined to the membranes, and leaves the vitreous body uninvolved, for otherwise the lens ultimately participates, and the result is softening and atrophy of the globe. Sometimes, spontaneous intra-ocular hemorrhage and total disorganisation of the eyeball may take place.

Associated with the chronic form of detachment of the retina, we most frequently have a high degree of myopia, which state of refraction, in fact, goes hand in hand with the intra-ocular pathological conditions just mentioned.

Detachment of the retina may, however, also be traumatic in its origin. I have at present under observation the case of Admiral ——, who, when out shooting in November, 1879, was struck in the right eye by a pellet from the gun of one of the party. I extracted the pellet, which was lodged under the conjunctiva, and had made an indentation in the sclerotic. The eye remained perfectly well till February, 1880, when, after being out on the ice curling during the day, he had the same evening an attack of epistaxis, so violent that a basin was completely filled with blood, from the right nostril. Irido-choroiditis, with detachment of the retina, followed some days later. The inflammatory attack left a posterior synechia behind, and the detachment gradually increased. I may also mention that the detachment may either be continuous, or in isolated spots or portions. When the detachment is large, it is generally situated in the lower portion. Even when it begins at the upper portion, it for the most part gravitates downwards; and the part of the retina originally affected, if the layer of rods and cones have not been long macerated, applies itself again upon the choroid, and reassumes its function. My clinical observations have fully convinced me of that fact.

Treatment.—In my opinion, this effusion ought to be treated in the same way as other effusions in serous cavities, as, for example, in the pleura or in the peritoneum. I withdraw the effused fluid by a subconjunctival sclerotomy, practised in the meridional direction. The following are the different steps in my operation, when there is a large continuous detachment of the retina, and vision is nearly or entirely abolished. I examine the patient by the erect ophthalmoscopic image, in order to ascertain the site of the detachment, and also to which side the effused fluid inclines. It is essential to repeat this examination, putting the patient's head in different positions. Thus, with the patient sitting upright, and then, also, with the head placed in a horizontal position, he is made to look upwards and downwards, to the right and to the left. The side to which the fluid inclines in the different positions of the eyeball having been thus ascertained, the patient is put under chloroform, and the ophthalmostat is introduced. I then make a vertical incision into the conjunctiva, half an inch long, in the region of the detachment. The assistant separates the lips of the wound in a horizontal direction, by means of two strabismus-hooks. I then open Tenon's capsule, lay bare the sclerotic, and rotate the eyeball in such a direction as to expose the corresponding part of the sclerotic, towards which the fluid inclines. Into that part I introduce a broad needle, having an external flat surface, and an internal convex surface, and thus give the incision a curved form. The needle is gently withdrawn without the slightest inclination, and the liquid flows on the withdrawal of the instrument. The instrument is introduced obliquely, in such a manner that the edges of the scleral wound should overlap each other, and not remain gaping when the instrument is withdrawn. If I judge that more fluid remains behind, I introduce a fine silver spatula, and press gently on the lips of the scleral wound. But if the detachment be not very extensive, or the eyeball too prominent, or, rather, soft, I operate with a flat sclerotome, so as to produce a linear, instead of a curved, incision.

The lips of the conjunctival wound are now brought together by means of one or two fine silk-ligatures (although, in exceptional cases, these ligatures may be dispensed with), and both eyes are shut by three strips of court-plaster, lint, and a bandage. The patient is ordered to lie upon his back for two or three days, as after the extraction of cataract. On the third or fourth day, I renew the simple dressing, without opening the eyes; but, on the fifth day, the eyes are opened, and the results of the operation ascertained. By this time, there is generally not the slightest trace of an operation left, so that this method is, at all events, inoffensive, even if we do not always obtain the desired result. Generally, however, we obtain satisfactory results. Of seven operations which have been recorded from my *clinique* since 1878, three have resulted in perfect success. The state of total blindness in each has been cured, so that the patients could return to their ordinary occupations. In each of four other cases, there was a decided improvement; the patient could see to walk about, although sight was not completely restored.—*British Medical Journal, Dec. 20, 1884, p.* 1234.

105.—DETACHMENT OF THE RETINA, INVOLVING TOTAL BLINDNESS, CURED BY WOLFE'S OPERATION.

By J. McGregor-Robertson, M.A., M.B., C.M., Junior Surgeon Glasgow Ophthalmic Institution.

Hugh S., aged 70, began to be troubled with his eyes about eighteen months ago. One evening he noticed that each of the lamps on the opposite side of the street appeared to have two lights instead of one, one of which was white, the other blue. He stopped, and then walked across towards the lamp, and as he approached it the two lights came nearer to one another till at a certain distance they merged into one. On going away again the two lights reappeared. He then tried shutting one eye, and found that the white light was perceived by the left eye, and the blue one by the right, but the lights were crossed, so that the blue light, perceived by the right eye, was to his left side. He thus became aware that something was wrong with the right eye, which gradually grew worse, until he could not discern shadows with it. Lately he began to see floating objects before his left eye.

The following was the condition of the right eye: Pupil imperfectly dilatable, tension normal, a large retinal detachment at the lower and outer portion of the fundus, and some floating pigment. Vision was almost completely abolished. As he himself expressed it, he was "perfectly blind but for a wee bit blink away to the one side." In the left eye no floating bodies could be discerned through the undilated pupil.

The operation was performed on the 2nd September. Having introduced the speculum, Dr. Wolfe made a vertical incision into the conjunctiva and fibrous capsule at the outer and lower angle of the cul-de-sac. The edges of the wound were separated by two small strabismus-hooks, and the eyeball having been rotated upwards and inwards, Dr. Wolfe entered the sclerotome through the sclerotic into the sac of the detachment. A large quantity of brownish fluid followed the withdrawal of the instrument. The wound was brought together by two fine silk-ligatures, and the patient was put to bed.

On the sixth day after the operation the ligatures were removed. There was not the slightest reaction in the eye, which looked healthy and clear. With the exception of a red mark where the conjunctival incision was made, it bore no marks of operation. The left eye was blindfolded, and it was found that with the right he could see everything and every person in the room, and walk to any part of it without hesitation. He could see with perfect distinctness a ring on the little finger of a hand held up at six feet distance, and could with very little trouble tell the time to a minute on a white faced watch. He could also read Snellen's CC at ten feet, C at five feet, XL at three feet, and XX at twelve inches.

In the British Medical Journal for 3rd May, 1884, I reported a case of detachment of the retina, cured by Wolfe's operation. That case and the present one are remarkable testimonies to the value of the operation. It was performed on a man of the age of 38, this on a man aged 70. The former case was complicated with irido-choroiditis and nebulous cornea, the latter was uncomplicated. After the lapse of seven months, the regained sight of the former has not at all diminished in quality, the man at this date being able to tell the time, to a second, on a watch, and to pursue his occupation as a tailor, and that in spite of the worst possible hygienic surroundings. Is it too much to expect that the present patient, a man of still vigorous health and of strictly regular habits, will benefit still more by the operation, and to conclude that the operation, whose simplicity is one of its great merits, is destined to occupy an important position in eye surgery?—*Medical Times and Gazette, Sept.* 27, 1884, *p.* 431.

106.—A CASE OF SYPHILITIC AFFECTION OF CEREBRAL NERVES; WITH AFFECTION OF ONE EYE.

By Henry Lee, F.R.C.S., Cons. Surg. St. George's Hospital.

A married gentleman had syphilis some years ago, for which he appears to have been imperfectly treated. After the secondary symptoms had subsided, the parietal bone on the left side became enlarged to a considerable extent. There was some loss of power in the right leg; this was occasionally better and occasionally worse. After the lapse of many months he had a fit and became unconscious, and there was some loss of power in the right arm. His memory at the same time suffered. The point of interest in this case was that for many months the power of adjusting the focus of the *left* eye was impaired. This was tested on several occasions and at long intervals, always with the same result. He saw well at a distance with the right eye, but was ordinarily short-sighted with the left. By an effort of the will and after a few seconds he could focus the left eye to the same distance as the right, and see as well with one as with the other. On looking along a narrow ruler with both eyes the extremities of the ruler appeared to diverge, "so as to make a very closely formed X." There was nothing the matter with the eye itself, nor was there the least indication of any branches of the sympathetic being affected. The change of focus was produced entirely by a voluntary effort. The ordinary motions of the eye were perfect.

The very interesting question then arises, Upon what condition did the imperfect adaptation of the eye to vision at different distances in this case depend? Since Sir Wm. Bowman made the discovery of the mode in which the eyes are adapted to vision at different distances by a mechanism within the eye itself, little attention appears to have been given to the influence of the external muscles of the eye in producing the same effect. This subject, however, occupied the attention of former physiologists. The fact that the eye is naturally flaccid, and liable to different degrees of tension, indicates that by slight pressure its diameter may be altered. Extreme tension, which prevents any sense of fluctuation, indicates very serious disease. Short-sighted persons are constantly in the habit of half-closing the eyelids so as to make slight pressure on the anterior surface of the eye in looking at distant objects. The antero-posterior diameter of the eye is thus slightly shortened. The action of the external muscles on the eyeball might be called the coarse adjustment of the eye in contradistinction to the fine adjustment by the mechanism within the eye itself. The antero-posterior diameter of the eye may be lengthened as well as shortened. Dr. Hosack says that external pressure is capable of altering the focal length of the eye. With a speculum he made pressure upon his eye while directing attention to an object twenty yards distant, and saw it distinctly. Endeavouring to look beyond, everything appeared confused. Upon increasing the pressure considerably, he was enabled to read a book distinctly held at a distance of two inches from the eye, although in the natural state of the eye he could distinguish neither lines nor letters. This experiment may easily be repeated in a very rough way. If a book be placed before the eyes so close that the type can no longer be distinguished, and pressure be made through the upper eyelid deep into the orbit, the type will become more distinct. In all animals, birds, and fish, the muscles which in man are called oblique are really transverse. The superior in all has its special nerve, the fourth; while the external rectus in like manner is supplied almost exclusively by the sixth. Sir Charles Bell has shown that with regard to opposing muscles when one acts the other relaxes, or loses its tone, so that they act in concert although not supplied by the same nerve.

Now, we have in the eye the external and internal rectus, which taken together have a double supply of motive nervous power; the one for the ordinary motions of the eye, the other to regulate the degree of divergence from the usual axis of vision. In like manner the two oblique or transverse muscles taken together, having a double nervous motor supply, must have a double function. The first, that of rolling the eye so as to enable it to follow a revolving object sufficiently long to produce distinct vision; the other has not been generally acknowledged.

Considering the disposition of the oblique or transverse muscles in all classes of animals, the action must be (when they act together) to compress the eye laterally, and then slightly to alter its antero-posterior diameter. In dissecting the eyes of animals I have found a thick cushion of fat on the inner side of the eye. This, during the action of the oblique or transverse muscles, would afford a slight resistance and compress the inner surface of the eye.

Irritation of a nerve has a natural tendency to increase the susceptibility, and, if long continued, the development, of the muscle which it supplies. A familiar instance of this is shown in the case of children who, from some reflex irritation, begin to squint. If the irritation be long continued, the strabismus becomes permanent. A very remarkable case occurred under my observation some years ago, which illustrates the same point. A young girl had her little finger drawn across the palm of her hand, so as to prevent her closing the other fingers. After a variety of ineffectual treatment, Sir William Fergusson removed the finger. Upon dissecting the parts, I found that the adductor minimi digiti was enormously developed. After a time the ring finger was drawn across the hand in the same way.

The conclusions to be drawn from the foregoing observations are —first, that the focal length of the eye may be altered by external pressure; secondly, that the mechanism by which this is usually effected is under the control of the fourth nerve; and, thirdly, that prolonged irritation of that nerve, direct or reflex, and of its corresponding muscle, produced the comparatively and permanent short-sighted condition of the left eye in this case.—*Lancet, Nov.* 1, 1884, *p.* 766.

107.—ON THE USE OF COCAINE AS AN ANÆSTHETIC IN OPHTHALMIC PRACTICE.

By Dr. Karl Koller, Vienna.

The anæsthetic influence which cocaine exerts when applied locally to the mucous membrane of the tongue led Dr. Koller to try its effects on the eye. He made several experiments on animals, from which he found that two or three drops of a two per cent. aqueous solution of chloride of cocaine, introduced into the conjunctival sac, rendered the cornea and conjunctiva quite insensible. If he scratched with a needle, or even perforated the cornea of animals so treated, or passed a strong electrical current through it, or touched it with caustic, the animals felt no irritation at all. As to the duration of this anæsthesia, he could obtain no idea from his experiments on animals. He tried to find out if cocaine had also an influence on the inflamed cornea. He first produced keratitis in animals by introducing a foreign body into the eye, and he found that the cocaine also acted as a local anæsthetic under these conditions. The success of these experiments on animals led him to try the effect of cocaine on the human eye, and he had obtained the following results:—(1) One or two minutes after introducing a few drops of a two per cent. solution of cocaine chloride the cornea and conjunctiva were rendered completely insensible; he could seize the conjunctiva with hooked tweezers, and exert considerable pressure on the cornea, and the patient felt nothing, nor were there any reflex movements. The anæsthesia lasted from seven to ten minutes, and disappeared gradually. (2) Simultaneously with the anæsthesia, considerable dilatation of the palpebral orifice occurred, which he explained by the absence of the sources of irritation which otherwise affect the cornea and conjunctiva. (3) The ocular and palpebral conjunctiva became anæmic. (4) Fifteen minutes after introduction, mydriasis set in. It was never present in any great degree; after an hour it decreased considerably, and totally disappeared some hours later. During this period the pupil re-acted quickly. (5) Paresis of accommodation set in together with the mydriasis, and also disappeared with it. (6) When the application of the above-mentioned solution of cocaine chloride was continued, and repeated every five minutes, the anæsthesia of the cornea lasted from fifteen to twenty minutes, and the deeper parts of the eyeball became anæsthetic, its sensibility being much diminished on pressure. (7) The application of cocaine never produced any signs of irritation. He obtained good results with it in various diseases of the cornea and conjunctiva, which were associated with pain and photophobia, as, *e.g.*, syndesmitis lymphatica and erosions of the cornea; it was also of use in cases in which the touching of the eyelids with nitrate of silver would cause severe pain. He recommended the application of cocaine in cases of iritis and irido-cyclitis where the contraction of the vessels must render good service. The application of cocaine as an anæsthetic in ophthalmic operations had excellent results in thirty cases of removal of foreign bodies from the cornea, in cases of tattooing cicatrices on the cornea, in two cases of operation for staphyloma in children, as well as in several iridectomies and operations for cataract. When the anæsthesia in these operations was produced according to the method which Koller had recommended, *i.e.*, with a five per cent. solution, the patients stated that they felt nothing of the corneo-scleral incision, while the seizing and excision of the iris caused them but little pain. In this respect he quoted an interesting case in which iridectomy was performed on a man who had suffered from "seclusio pupillæ," affecting both eyes; the solution was applied in the operation on one eye, and omitted when the other eye was operated on a week later. The patient declared he felt no pain at all during the first operation, but his restlessness during the second operation rendered it difficult. —*Medical Times and Gazette, Nov.* 8, 1884, *p.* 662.

108.—ON THE ACTION OF COCAINE ON THE EYE.

By GUSTAVUS HARTRIDGE, F.R.C.S., Ophthalmic Surgeon to St. Bartholomew's Hospital, Chatham.

I have recently been making some observations on the action of hydrochlorate of cocaine on the eye. On placing a single drop of a four per cent. watery solution into my own eye, it produced anæsthesia of the cornea and conjunctiva in about half a minute, so that the finger could be passed over them, or the conjunctiva taken hold of with forceps, without any unpleasant sensation. The anæsthesia remained for six minutes, and then gradually disappeared. The pupil became dilated in about twenty minutes from the time of the instillation, together with slight paresis of accommodation. Gradually these effects passed off, so that in four hours the pupil was of the same size as in the other eye; in twelve other eyes similarly treated the same results ensued. This four per cent. solution was also tried in the following:—

Five cases of foreign bodies on the cornea. In each, the foreign body was removed, without the least pain or flinching of the patient, in about one minute after a drop of the cocaine had been instilled.

Ten cases of ulcers of the cornea, with great photophobia. In many of these immediate relief was given to this distressing symptom, and in some the relief was permanent; in others the instillation had to be repeated.

Two cases of abrasion of the cornea, with much photophobia. Great relief was at once given by a drop of the cocaine solution.

Case of cataract, on which Mr. Power was about to operate, had five instillations of two drops each, at intervals of five minutes. The opaque lens was then removed without an iridectomy. The patient gave no indication of pain, and said that the operation did not hurt in the least.

Case of iridectomy for glaucoma. The operation was done after two instillations, with an interval of five minutes between each. The patient complained of much pain both when the incision in the cornea was made, and the segment of iris was snipped off.

Case of needling for opaque capsule. After two drops, with an interval between each, a speculum, fixing forceps, and needle were used, without any unpleasant sensation.

Case of entropion of the lower lid, requiring the excision of a piece of skin. Two drops of the cocaine solution were injected by means of a hypodermic syringe beneath the skin about to be excised, ten minutes before the operation; one drop was also placed between the lids. A good deal of pain was felt on the removal of the skin. Two drops were also injected into a small pigmented growth near the external canthus of another patient. The growth was then removed. It was doubtful if the pain of the operation was at all relieved.

Case of obstructed nasal duct. Two drops were instilled, at a short interval, five minutes before slitting up the canaliculus, without any diminution of the pain usually felt.

From these experiments the following deductions may be drawn:—First, that hydrochlorate of cocaine is of considerable value as a local anæsthetic in the following cases:—(*a*) In diseases of the cornea where photophobia is a prominent symptom. (*b*) For the removal of foreign bodies from the cornea. (*c*) In all operations affecting the cornea and conjunctiva only. (*d*) In cases of cataract extraction, where it is undesirable to give ether or chloroform.—Secondly, that it is of little or no value—(*a*) in operations involving the skin; (*b*) in operations on eyes suffering from glaucoma, even if considered advisable.

Further observations are needed to confirm these experiments and to determine the strength of the solution which produces the best results, together with the most satisfactory mode of applying it, whether in a watery solution, in oil (in which it is readily soluble), in vaseline, or in discs, and if frequent applications at short intervals produce a greater effect than a single drop. I hope on some future occasion to be able to give some more observations bearing on these points.—*Med. Times and Gazette, Nov.* 22, *p.* 713.

109.—ON ADENOID DISEASE OF THE NASO-PHARYNX AND DISEASE OF THE MIDDLE-EAR.

By W. B. Dalby, F.R.C.S., M.B.Cantab., Aural Surgeon to St. George's Hospital.

The paper on this matter by Meyer caused these growths to be very generally sought for whenever there was obstruction of nasal breathing associated with obstruction of the Eustachian tubes. The aspect of a child, or young person, who is deaf from obstruction of the Eustachian tubes, and unable to breathe through the nostrils, is very characteristic; the open mouth, the odd thick voice, the stupid look, and the fact of the patient's snoring when asleep, bespeak the condition; when this aspect is present, and when the tonsils are not found so very much enlarged, adenoid growths may be suspected, and should be sought for. It should, however, be observed that the two causes very often are found to exist together, so that it is quite possible to remove the tonsils and find the nasal obstruction still present. The search for these growths may be conducted in two ways: either by rhinoscopy or by examination with the finger.

Of the first method and of its difficulties, it is sufficient here to observe that in a large number of patients it is not only very difficult, but practically impossible, to obtain a reflection of the posterior nares. This applies especially to young children and to grown up people in whom the pharynx is shallow. With these latter subjects there is not sufficient space between the soft palate and back wall of the pharynx to place the small laryngoscopic mirror without touching the pharynx and exciting retching. Under any circumstances it requires a good deal of practice to obtain a view. With a deep hollowed pharynx these growths may be partially brought into view. I may repeat that the tongue should be depressed with the forefinger of the left hand or a tongue depressor. The small laryngoscopic mirror should be warmed and placed as far back on the pharynx as possible without touching it, the face of the mirror being turned from the uvula, directed a little upwards and outwards; by moving it in various directions from moment to moment a reflection of portions of the posterior nares may be obtained; the light from the forehead mirror being throughout the examination directed on to the small mirror. But a far more easy method of finding the growths, and one that is open to those who have not acquired facility in examining the posterior nares with reflected light, is the examination by touch. If the patient is seated in a chair, the forefinger of the right hand, protected by a guard, may easily be introduced behind the soft palate in an upward direction; the left hand should be placed on the occiput, to support the patient's head. Adenoid growths may be readily recognised in this very simple manner, by the fact that the pharynx is partially occupied by them, and by the sensation which they convey to the finger. It is as if the finger touched tissue like an enlarged tonsil. They also bleed when touched. There is one other symptom of the presence of adenoid vegetations in the vault of the pharynx, and it is one which is most distinctive of this condition. If fluid be syringed into the nostril in the inferior meatus, it will either pass into the throat or come out by the other nostril. As it is frequently necessary to order solutions to be used in this way, the difficulty experienced in using these solutions effectively will often direct attention to the presence of the adenoid growths. Indeed, where this difficulty is encountered the presence of these vegetations may be considered almost certain. It is still more so if the pinched appearance of the nose, which Dr. Meyer speaks of, is present. Whilst making an examination, if the growths are small, they may be scraped off the upper wall of the pharynx by the finger-nail and spat out, and this is all that is often necessary; indeed, it has been said by some that they never fail to completely remove them in this way. For my own part I cannot understand this, for they are often in such quantity and size as to fill the vault of the pharynx. In such instances it is necessary to make use of forceps, invented by Lowenberg, and now very generally employed for this purpose. Besides, the forefinger is often much interfered with in a shallow pharynx, and in young children by the soft palate, which feels like a string.

Lowenberg's forceps are very easily introduced behind the soft palate, and most patients will submit to their use without an anæsthetic. Inasmuch, however, as they require to be used many times, it has been thought by some desirable to take all away that may be desirable on one occasion, and ether must then be given. It will then be necessary to use sponges fixed on to forceps, or at the end of a stick, to prevent the blood trickling into the larynx; for there is always free bleeding, both in the pharynx and through the nose. When the subject of these growths is not a very small child, and the forefinger can be placed behind the soft palate, I have obtained good results by using a small scoop fixed on the end of the forefinger, and projecting only just beyond the nail—in short, a sort of artificial steel nail. With this instrument the pharynx can be rapidly and completely cleared of the adenoid growths, if they are not very large or in great masses. Any risk that might be incurred if the instrument dropped into the pharynx is obviated by having a long piece of string attached to it. There is, however, no danger of this if the scoop be made for the person who is to use it, as it is fixed tightly on to the finger like a thimble. Since the introduction of cocaine, I have several times removed large pieces of adenoid tissue from the vault of the pharynx without any discomfort in introducing the forceps after a 20 per cent. solution of cocaine has been freely applied to the back of the pharynx. I must say I think it much better not to attempt to at once clear the pharynx (as it has been termed) under an anæsthetic, nor from what I have seen does it commend itself as a successful proceeding or devoid of unpleasant consequences. As general attention to adenoid growths is more or less of recent date, probably their treatment, as well as the literature of the subject, may be expected to undergo some modification. Not only very great, but almost immediate, relief to nasal obstruction follows the removal of these growths, as well as improvement in hearing. It is advisable to continue the use of alkaline solutions through the nostrils for a time, and occasionally to apply astringents, or even nitrate of silver, to the surface from which the growths have been taken away. It is satisfactory to notice that when once removed they do not return.—*Lancet, Jan.* 10, 1885, *p.* 52.

110.—TREPHINING IN MASTOID AND TYMPANIC DISEASE.

By W. I. Wheeler, F.R.C.S.I., M.D., M.S., Dublin University.

Otorrhœa, or discharge from the ear, whether from disease of the osseous structures or from other causes, must necessarily be of interest to the practical surgeon, knowing as he does that such affection is fraught with imminent danger, momentarily imperilling existence.

The mastoid process and cells appear to be most frequently the seat of disease; and the commonest causes for this, as well as for disease of the tympanum in childhood, are—measles, scarlet fever, smallpox, and scrofula. The mucous membrane at this time is generally affected and much thickened, and in the hitherto undeveloped state of the mastoid process the mucus is retained in the horizontal part, which is bounded by the squamous portion of the temporal bone externally, and above by the lamina of the tympanic wall. Hence, when disease occurs in the mastoid cells in early life, the cerebrum is the part of the brain which becomes engaged, the cerebellum in more advanced years. When the mastoid cells are fully developed, we find them separated from the cerebellar dura mater and wall of the lateral sinus only by a thin plate of bone, perforated by a number of small veins which open into the interior of the latter; they also approach the posterior wall of the external auditory meatus. This anatomical arrangement has led to the assertion that the most frequent starting-point of disease of the mastoid cells is in the external auditory meatus. The extent to which the cellular cavities of the mastoid bone extend is extremely variable—in rare cases they extend even beyond the masto-occipital suture. The close proximity of the floor of the tympanum to the subjacent jugular fossa, and the contained sinus of the internal jugular vein, points to the danger of perforating this vessel, which has occurred in disease of the osseous walls of the tympanum similarly with regard to the carotid canal and artery. The thin plate of bone which separates the mastoid cells from the wall of the lateral sinus, where the latter grooves the mastoid bone, easily allows the implication of the walls of the sinus in mastoid or tympanic disease, and as a consequence thrombosis would probably supervene.

Suppurative inflammation of the dura mater follows carious disease of the osseous structures, petrous portion of the tympanum, cavity of the labyrinth (carious disease of), and the wall of the external auditory meatus.

[Mr. Wheeler then details three cases of carious disease of the mastoid cells in which he trephined with successful results, the patients being completely restored to health.]

Acute inflammation of the mastoid process is not common in the adult, but is more usually seen in the young. The idea of perforation of the mastoid cells dates from Vesalius, but it was not explicitly recommended till 80 years later, when Riolan advised its adoption. The first operation of trephining was done by T. L. Petit, in the case of caries of the mastoid bone. Jasser next perforated the mastoid process in 1776 for the cure of deafness.

Out of 98 cases of perforation collected by Poinsot (*Dict. Méd. et Chirurg.*), in 35 the trephine or trepan was used; in the remainder other instruments, gouge, drill, trocar, &c., were employed. Of the total number of cases, 15 terminated fatally; in 2 the result is not stated; in 5 there was no recorded result; 5 others were under treatment at the time at which their cases were reported; the rest were successful. Of the 35 cases in which the trephine or trepan was used, 4 terminated fatally, while the result in the other cases has not been reported; in the total number of cases, the results of which are differently specified, 17 per cent. were fatal, and 21 per cent. successful. Buck, of New York, has collected 37 cases of suppurative inflammation in which the cases were left to nature (expectant treatment); 34 were fatal. It will be readily seen from the foregoing that the operation of trephining for mastoid disease is a fairly successful one, and on the other hand, that, from the expectant treatment in suppurative inflammation, there is little to look forward to but a fatal result. That the operation should be practised early is a self-evident fact; it is useless when pyæmia, meningitis, or phlebitis of the sinuses has appeared, although the first cerebral manifestations should not intimidate the surgeon from operating, and I doubt not but that good service will be done towards the patient by his attendant who advises operation even where no bone disease existed, but when the discharge from the tympanum has lasted for *a lengthened period*, and has not yielded to other treatment, such as syringing and enlarging the opening of the membrana tympani if necessary. Setons and issues I believe to be of little use, for although only the mucous membrane may be engaged, yet we know that a blow on the mastoid process, a severe cold, a depressing illness, may cause disease to advance to the bone, pyæmia may ensue, or death by general cerebral irritation, without the formation of abscess. A well-accomplished operation will always give free vent to pus when existing, and prevent it passing to the brain through some of the numerous channels I have recorded, and will thus save the patient. I must deprecate the operation recommended by Dr. Bagroff—namely, the use of the gouge and galvano-cautery over the mastoid process; such procedure, as it appears to me, would be likely to set up irritation and inflammation. Unless, indeed, the suppuration is comparatively superficial, or discharging through a fistulous opening, I would not select to operate over the mastoid process; there one cannot remove the entire portion of the bone, on account of the proximity of the lateral sinus, and so cannot expose the dura mater, to do which I hold is very essential.

The site I would always select for operation, with the exceptions as above named, would be such as to place the lower border of the trephine on a level with the external auditory meatus, and anterior to a line dividing vertically the mastoid process. By adopting this course there will be no danger of wounding the lateral sinus, the tympanum and mastoid cells will be opened, giving full exit for discharge, the dura mater will be exposed, and, should pus exist between it and the cranium, there will be ample freedom for its escape.—*Dublin Journal of Medical Science, Oct.* 1884, *p.* 289.

VENEREAL AFFECTIONS.

111.—ON THE TREATMENT OF SYPHILIS.

By Alfred Cooper, F.R.C.S.Eng., Surgeon to the Lock Hospital, London.

I suppose that, at the present day, most surgeons are agreed that mercury is the medicine to be relied upon in treating syphilis; but there is, I believe, much difference of opinion with regard to the details of the treatment. Some, having diagnosed induration, withhold the exhibition of mercury until additional symptoms have developed themselves. Others are even more reluctant to have recourse to mercury. They treat the first eruptions that may appear with iodide of potassium, and prescribe mercury only when the cutaneous manifestations are particularly obstinate. This hesitation is, no doubt, caused by the fear that mercury will do mischief in some way or other. But if proper precautions be used, such fears are groundless, and to wait for further manifestations is, from my point of view at least, decidedly unreasonable. I regard the induration as a symptom of the contamination of the system, as significant in this respect as any eruption, and I firmly believe that the earlier mercurial treatment is adopted after the diagnosis has once been made, the better the prospect of getting rid of the disease.

Having determined to administer mercury, the next question is, What is the best and most convenient method of using it, and what is the best preparation?

My opinion is that, in a general way, the most convenient method of administering mercury is by the mouth, and that blue pill is the best preparation.

The patient must, of course, be carefully watched, and the dose must be reduced, or the medicine stopped for a time, if the least signs of salivation appear. Great care must be taken to avoid salivation, the production of which is not only unnecessary, but mischievous. Besides doing harm in other ways, its occurrence necessitates the premature cessation of the mercurial treatment, and this, in my opinion, interferes with the production of its good effects. To be thoroughly efficacious, the course of mercurial treatment must be a prolonged one; this is a point upon which I would lay great stress.

When I first began to treat syphilis, it was the fashion (whenever mercury was given) to subject the patient to a single course, extending, perhaps, over a few months, and then to consider that nothing more could be gained from the medicine, and that its further use should be dispensed with.

Experience has convinced me that this view is erroneous, and that the practice based upon it is bad. If we wish to cure syphilis with mercury, the treatment must extend over two years; I mean that the medicine must be given during this time in courses of weeks or months, with certain intervals between them. As a general rule, I advise a six months' course at first, to be followed by an interval of a couple of months, during which the medicine is discontinued. Another course of three months is then advisable, after which a longer interval may be allowed; a third and a fourth course, with an interval between them of three or four months, will complete the treatment. The carrying out of this plan requires much self-control on the part of the patient, and sometimes it is impossible to protract the treatment to this extent. Whenever circumstances are favourable for its adoption, every effort should be made to induce patients to submit to it. No patient should be allowed to marry until he has undergone such a course of treatment as I have just described, and has subsequently remained free, for one year at least, from any sign of the disease.

There are certain circumstances which contraindicate the use of mercury, even when induration is actually present. It is seldom safe to give mercury to phthisical subjects, unless the chest-affection is slight, and the patient's health is good in other respects. Iodide of potassium is generally to be used for these cases. When albuminuria exists, mercury must, of course, be withheld, unless there be reason to believe that the renal affection is due to syphilis.

No hard and fast rule can be laid down with regard to mercury for syphilis contracted by scrofulous subjects. If the symptoms of scrofula are not very severe, mercury may be given tentatively and in small doses. Iodide of potassium is the substitute, if the mercury appears to be mischievous. Profound anæmia, and the existence of serious disease in any important organ, would contraindicate mercury. As a matter of course, the least symptom of sloughing or phagedena would prevent any notion of mercury from being entertained; and if these complications set in during a mercurial course, the medicine must at once be discontinued.

While mercurial treatment is being carried on, especially when there is any ulceration about the mouth and throat, a few simple precautions are necessary. Alcohol and tobacco must be avoided, or used very sparingly. Exercise and fresh air tend to prevent salivation; and the skin should be kept perfectly clean. When any eruption appears, confinement to the house is desirable.

The early and continuous administration of mercury, in the way I have just recommended, appears in some cases to cut short the disease; that is to say, it prevents any further manifestations. Several instances illustrating the truth of this statement have occurred in the course of my practice. In one case, a man, aged 35, presented a well marked indurated sore, with indurated and prominent glands on both sides. I prescribed blue ointment locally, and blue pill internally. The latter has been continued for a year, and no secondary manifestations whatever have appeared. In two other cases, lately under my care and similarly treated, six and eight months respectively have elapsed without any other symptom. As a matter of course, it must be admitted that such a result can seldom be attained, but I feel quite sure that the early and continuous administration of mercury invariably mitigates the severity of any symptoms that may present themselves.

As regards other plans of administering mercury, they all are accompanied by certain drawbacks. Inunction is doubtless an efficacious method, but it is uncleanly, and patients do not like it. The mercurial vapour-bath is troublesome, its effects are uncertain, and very little mercury gets into the system, unless the patient inhales the vapour freely. It is, however, very useful in the treatment of cutaneous manifestations. As regards other preparations, I give the iodides of mercury for the later stages. They are not to be recommended for the earlier ones, when we wish to produce the effects of mercury alone. I need not say anything about iodide of potassium, as that drug is useful only in the later stages, and I do not regard it as an antidote to syphilis. I never give it for primary and early secondary manifestations, unless mercury in any form is contraindicated. Its good effects are often very striking in syphilitic bony lesions, and in syphilitic affections of the nervous system.—*British Medical Journal, Oct.* 18, 1884, *p.* 755.

112.—ON GONORRHŒAL RHEUMATISM.

By M. Terillon, Paris.

This rheumatic affection is not merely a coincidence of the gonorrhœa, but a form of rheumatism which develops itself without any other cause whatever than the gonorrhœa. It is indeed not rare to meet with patients who, having been cured of a first attack of rheumatism occurring under these circumstances, do not suffer from subsequent attacks unless they contract a second blenorrhagia. This form of rheumatism has its peculiarities, for it attacks females very seldom, and nearly confines its attacks to the large joints—the hip, knee, and elbow; the smaller joints only suffering secondarily. Moreover, it is generally mono-articular. Sometimes it is attended with effusion into the joints, while at others it gives rise to anchylosis in even ten or fifteen days, the rapid formation of fibrous adhesions rendering this incurable. This rheumatism may, however, affect other parts than the joints. Thus (1), what seems to be an articular affection may really be one affecting the neighbouring tendinous sheaths, a tendinous synovitis with swelling and effusion. (2) It may invade the muscular system, the muscles of the neck, the deltoid, or even the motor muscles of the eye, being affected. (3) It may manifest itself in the serous bursæ, near the joints, as the hip, patella, or elbow. (4) It may attack the sciatic nerve, and this is not very rare. (5) M. Guyon first pointed out a doughy state of the cellular tissue that may occur, accompanied by pain and heat. (6) Many examples exist of its attacking various tissues at once in the same region. Gonorrhœal rheumatism, moreover, is peculiar in not giving rise to any visceral phenomena, so that affections of the chest do not result from it. It is also fugaceous and does not reappear, except after a new gonorrhœa. The relation between it and the discharge is somewhat curious, for in some patients who had had abundant discharge, this diminishes as soon as the rheumatism is manifested; but this is not constantly the case. As to its prognosis, the disease may be said to be of but slight importance when it attacks only the tendinous sheaths, the bursæ, and the muscles; but this is far from being the case when a joint is invaded, for so liable is it for anchylosis to take place, that our first object should be to place the limb in the most favourable position in case this should occur. Even when anchylosis does not occur, stiffness of the joint is one of the most common sequences, and this, accompanied as it often is by muscular atrophy, is long in disappearing. In these cases we must allow the joint to gradually resume its movements, and not endeavour to force this by violent measures, under pain of finding the fibrous tracks increase in number and thickness. This state of atrophy and stiffness is much benefited by electrical currents, by massage, by sulphurous douches, and by a course of mineral waters at Aix. The treatment of gonorrhœal rheumatism is not the same as that of ordinary rheumatism, in which salicylic acid is the heroic remedy. Here it is of no avail, and we have to content ourselves with revulsives, chiefly blisters, repeated as many as three times at intervals of two or three days. When the effusion is abundant, we should not hesitate to puncture the joint, which is an excellent proceeding, relieving it at once of a mass of liquid which would require at least two or three weeks for its absorption. After the puncture, effectual compression should be applied. Finally, the disease leading to a considerable depression of strength in the course of a few days, its subject should be carefully "tonified," and the tonic par excellence in such a case is the sulphate of quinine.—*Medical Times and Gazette, Sept.* 27, 1884, *p.* 448.

MIDWIFERY,

AND THE DISEASES OF WOMEN, ETC.

113.—ON TWO CASES OF GASTROTOMY FOR EXTRA-UTERINE GESTATION.

By James Braithwaite, M.D.Lond., Surgeon to the Women and Children's Hospital, Leeds.

Case 1.—Mrs. A——, when three months advanced in her third pregnancy, was seized with severe pelvic pain, so severe that it was necessary to administer morphia hypodermically. The whole of the remainder of her pregnancy was passed in misery from pain and sickness, with obstinate constipation. Towards the end of the pregnancy her medical attendant, Dr. Green, of Leeds, convinced himself that it was a case of abdominal extra-uterine gestation. He could distinctly make out the position of the child through the abdominal walls. I saw the patient with Dr. Green a fortnight after the occurrence of a sanguineous vaginal discharge with some pain, which indicated that the uterus had thrown off the deciduous membrane. I need not say that when this occurs the death of the child may be considered certain. I found the patient in a very low condition and looking worn from prolonged suffering. The position of the child could be readily made out, showing that no placenta intervened; a very important matter as regards the success of an operation. The cervix uteri was widely open and trumpet-shaped. The first two fingers of the left hand could be readily passed quite up to the fundus, the uterus being only three inches in length. Of course the only question was, What to do with the patient? for there could be no doubt as to the diagnosis. We decided to remove the child at once, as the condition of the patient could not admit of delay. This was done on May 5th, 1883. The incision was central; no peritoneum was met with, and the sac was closely adherent to the abdominal walls. The child was lifted out by its feet, but it proved so large that it was necessary to extend the incision upwards another inch. This unfortunately detached the cyst from the abdominal wall, and a coil of bowel protruded into view at the upper part of the wound. The cyst was carefully stitched to the lower surface of the wound with a continuous catgut suture. The placenta was deeply situated, but to what part it was attached was not positively ascertained. The cyst was of considerable thickness, already black from decomposition, and lined with a smooth shining membrane (the amnion), which readily peeled off. After washing out the cavity with warm carbolic water, the wound was closed with silver wire sutures, the cord being left hanging out at the lower end of the wound. A large glass drainage-tube was also inserted. During the next three weeks the whole of the placenta came away through the lower part of the wound. The cyst came with it, and I recognised the catgut which had been used at the upper margin of the abdominal wall incision. Much of the black and putrid mass was removed by daily traction upon the projecting parts, but unless great care was used hemorrhage occurred. When the whole of the placenta and cyst had come away, the wound healed up rapidly, and the patient made a good though slow recovery, and she is at the present time as well as she was before her illness.

Case 2.— Mrs. W——, of Holbeck, a patient of Dr. Dobson's, with whom I saw her in September last year, aged thirty-five, has been married ten years, but never pregnant until the present case occurred. Menstruation all her life quite regular and natural; the last period was about Oct. 15th, 1883. On Dec. 3rd, having missed exactly seven weeks, she was slightly unwell, and had at the same time, to use her own words, "a very violent pain" in the body. The symptoms were such as would be produced by rupture of an early tubal gestation—viz., pain and collapse. She recovered from this, but the body went on increasing in size just as in normal pregnancy. At the end of August a sanguinolent discharge occurred, and this may therefore be taken as the time when labour would have taken place had gestation been uterine. The movements of the child, however, ceased to be felt about the end of the first week in August. By examination of the abdomen the outlines of the child were not perceptible as in the last case, but some thick substance intervened, which subsequently turned out to be the placenta. This much increased our difficulty in the diagnosis. There was a projection outwards of the abdominal walls in the right inguinal region, which felt not unlike a foot. There were no fœtal or placental sounds audible. The uterus measured only two inches and three-quarters, and the cervix was well open, so that the finger could be passed up to, but not through, the os internum. The pulse was weak, and the condition of the patient such that, being quite certain it was a case of abdominal extra-uterine gestation, we decided to remove the child at once. This was done on Sept. 11th, 1884, at the Women and Children's Hospital. The incision was central, and we came, as expected, directly upon the placenta, the edge of which, however, was found about two inches to the right of the incision. Careful separation of the placenta in this direction did not produce hemorrhage. An incision at right angles to the first was now made, and the edge of the placenta being pushed back the feet of the child were seized, and it was removed without much difficulty, the placenta yielding to the pressure without being torn or separated from its attachment to the abdominal walls. It seemed to me that a single layer of peritoneum intervened between the placenta and the abdominal wall. This was carefully divided upon a director. This was no doubt the peritoneum proper to the abdominal wall. Whether the child was enclosed in a cyst or not we were not quite certain at the time of the operation; but, as proved afterwards, this was the case. There were no veins in the abdominal walls at the seat of the placental attachment except just at the lowest angle of the central incision. These I was careful to avoid wounding; they were, however, only of small size. The wound was closed with silver wire, the funis being left out, and a drainage-tube inserted, both at the extreme right of the lateral incision. An attempt to separate the placenta with the finger and traction in about two weeks set up hemorrhage, and it was not attempted again until the discharge became very decidedly purulent at the end of six weeks. The whole of the placenta which had not been removed, for some small portions had been, was at the end of six weeks separated by the finger and removed without much difficulty. It weighed thirteen ounces. The patient is still in the hospital, but is nearly well. In introducing the finger for removal of the placenta I felt the cyst walls, which appeared to be pretty firm and thick.

The first thing worth remarking in the history of these cases is the occurrence of severe pain early in gestation, attended with some degree of collapse. This indicated rupture of the Fallopian tube, in which, up to that period, the fœtus had resided, and its escape in the first case into the interior of the broad ligament, and in the second into the peritoneal cavity. I assume that the explanation of these cases given by Mr. Lawson Tait is the correct one, and I believe it to be so—namely, that all cases are originally tubal, that rupture always occurs, but that this rupture may be in different parts of the tube; if on the lower surface of the tube, the fœtus is let down between the folds of the broad ligament, and then develops, the placenta retaining its original hold upon the interior of the tubal cyst; if the tube ruptures on its upper surface, the fœtus escapes into the peritoneal cavity; and if the mother survives it develops there just as it would have done in the uterus. It seems pretty clear that in my second case the placenta was detached from its original position and took root again in a fresh one, and that the interior of the abdominal walls. This situation of the placenta is rare, and I think it may without much difficulty be diagnosed by the thickness of the structures intervening between the fœtus and the examining hand.

The first case would be called one of subperitoneal pregnancy, because the peritoneal cavity was altogether external to the fœtus and its cyst. The course of the peritoneum at the time of operation would be down the abdominal parietes to the umbilicus, then reflected upwards over the anterior surface of the upper part of the cyst, then over its summit and down its posterior surface, so that up to the level of the umbilicus the peritoneum had been separated from the abdominal walls by the growth of the child upwards; whilst above the umbilicus the cyst covered with peritoneum projected into the peritoneal cavity.

In the second case the child was contained in a false cyst, composed of a fibrinous effusion, which shut it off completely from the peritoneal cavity. This, however, is not necessarily present in intra-peritoneal pregnancy, and the child may be found loose in the peritoneal cavity. It is worth remarking that if the peritoneum is not stripped upwards with the growth of the fœtus in subperitoneal or extra-peritoneal pregnancy, the cyst is found covered with peritoneum anteriorly, just like an ovarian cyst. An instance of this is the case related by Dr. Heywood Smith, in which a thin cyst was found not adherent to the abdominal walls and covered with peritoneum.

It is very remarkable that in the first case the cyst itself died at the same time, or about the same time, as the child and the placenta; for it was found black at the time of operation, and was subsequently thrown off with the placenta. *A priori*, one might have supposed that such a thick cyst would have retained its vitality. Probably its contact with the dead placenta accounts for this. In the second case the cyst did not die, although its vascular supply must have been insignificant, or absent altogether; whereas the vascular supply of the first cyst must have been very considerable.

It seems to me a remarkable thing that when the cyst and placenta in the first case formed a black sloughing mass, which was directly in contact with the peritoneum externally, there were no signs of peritonitis or septicæmia. No doubt the external surface of the peritoneum has different properties from those of the internal and more absorbent one.—*Lancet, Jan.* 3, 1885, *p.* 7.

114.—ON A NEW OPERATION FOR RUPTURE OF THE FEMALE PERINEUM.

By Charles J. Cullingworth, M.D., M.R.C.P., Professor of Medical Jurisprudence, Victoria University, Manchester.

The following observations are based upon an experience of eleven years at St. Mary's Hospital, Manchester. During that time, I have operated 19 times for laceration of the perineum (besides having, on 18 occasions, assisted at the performance of the operation by my colleagues); and, as the last nine of my operations have been performed by a different method from those adopted in the earlier ones, and with an incomparably superior result, I have naturally formed a very definite opinion as to the comparative merits of the various methods of operation. Let me, however, at the outset, repudiate any claim to originality in the method which I have learnt to prefer. I was led to adopt it from witnessing the excellent results obtained by my late colleague, Mr. J. H. Ewart, who, if not the actual originator of the operation, was certainly the first at St. Mary's Hospital to put it in practice. I propose in this paper to confine my remarks to what is known as the remote operation, that, namely, where the laceration is at least of some weeks' standing.

The lateral boundaries of the surface to be denuded are first marked out by a curved incision, commencing anteriorly on each side of the vulva at a point level with the inferior termination of the nymphæ, and including at first from a third to half an inch of the skin covering the vulva, but following for the most part the line of junction between the skin and the mucous membrane, until it meets its fellow of the opposite side in the middle line of the anterior border of the remains of the perineum. One or two fingers of the left hand are now passed into the rectum, and, the recto-vaginal septum being put on the stretch, the mucous membrane of the septum is divided in the middle line by a straight incision extending from a point on a level with the anterior extremity of the two lateral incisions downwards to the point where these two incisions meet, a little in front of the anus.

The extent of surface to be denuded having thus been marked out, each flap is dissected upwards and left attached along its upper margin, care being taken to make the flaps of sufficient thickness to retain their vitality. The two flaps are now reflected upwards towards the vagina, and their raw surfaces, being brought into apposition, are fastened together by means of three or four carbolised silk sutures at their vaginal and vulvar margins, and, if necessary, by an additional suture passed through the centre of the two flaps from right to left and back again from left to right, so as to pin, as it were, the two surfaces together.

Instead of making a vertical incision in the median line and dividing the flap into two portions, the operator may dissect up the tissues in the form of a broad single flap, which on being reflected upwards towards the vagina is folded upon itself so as to bring into apposition the two halves of its raw under surface. The flap thus folded is secured by sutures at its vulvar margin, and by a lateral vaginal suture similar to the one already described, the object of which is to retain the raw under surfaces in apposition and secure their union. The objection to this plan is that it renders the dissection a little more difficult; on the other hand, it has the following advantages: it excludes the possibility of the establishment of a recto-vaginal fistula (which, though I have never yet seen it, is a conceivable occurrence where the rectum has been extensively lacerated and the flap is raised in two portions); it forms a more effectual barrier against the entrance of vaginal discharges into the perineal wound; and lastly, it makes the accidental giving way of the flap-sutures a matter of less importance. I have always hitherto adopted the method of dividing the flaps, and with uniform success, but I quite recognise that in certain cases the single flap would be preferable.

Although the mode in which the flaps are ultimately secured by suture has already been described, it will be found more convenient in practice to postpone this part of the operation until the perineal sutures have been passed and are ready for being twisted. In the meantime it is well, after the flaps have been reflected, to secure them provisionally by a long carbolised silk ligature passed through their entire thickness, and to hand over the ends of the ligature to an assistant, whose duty it is, by their means, to hold up the flaps out of the way of the operator while he is passing the perineal sutures. For these I use strong silver wire secured by simple twisting; the quilled suture I, in common with most operators, have long discarded, partly because of its liability to cause sloughing of the underlying skin, and partly because I find I can do equally well without it.

The needles which Mr. Ewart used are much longer and more curved than those in general use; they are mounted on handles, and are very strongly made. Whichever needle is selected, it may either be passed unarmed, the wire being looped through the eye as it protrudes on the further side and drawn into position as the needle is withdrawn, or, before being passed, it may be armed with a silk ligature, the loop of which is left behind on withdrawing the needle. In this latter method the wire suture is drawn into its place by hooking it through the loop of silk. With one exception, to be mentioned presently, all the perineal sutures should be imbedded in the tissues along their whole course, and neither bridge across the perineal wound nor penetrate either the rectum or vagina. It is certain that by this means not only is better coaptation of the deeper parts secured, but the sutures are rendered less irritating. The needle is to be introduced at a distance of about half an inch outside the margin of the denuded surface, and is to be guided in its passage between the layers of the recto-vaginal septum by means of the left forefinger in the rectum and the left thumb in the wound, or in the vagina, as the case may be. When the point of the needle has passed fairly across behind the vaginal wall, the simple manœuvre of depressing the handle will, with a little care, cause it to emerge from the skin on the opposite side at a point corresponding with the point of entrance. At least one of the sutures, the one farthest from the anus, should pass beneath the mucous membrane of the posterior vaginal wall above the line of reflection of the flap. The remainder pass between the denuded surface and the mucous membrane of the rectum. No fixed rule can be laid down as to the number of these deep perineal sutures; generally from three to five are required, according to the extent of the laceration and the width of the original perineum.

Some slight modifications are necessary where the rupture extends into the bowel. The lateral boundaries of the flaps are the same in front, but they extend considerably further backwards in order to embrace in the surface to be denuded the divided and widely-separated ends of the *sphincter ani.* Having been thus carried sufficiently far posteriorly, the incision curves around the cicatricial surface and is continued along the margin of the wound in the rectum, close to the edge of the mucous membrane, to the apex of the rent. A similar boundary line having been marked on the other side, a vertical incision is now made through the mucous membrane covering the posterior vaginal wall, extending upwards from the apex of the recto-vaginal rent to a point on a level with the anterior extremity of the lateral incisions. The flaps are dissected up, reflected into the vagina, and otherwise dealt with exactly as in the operation already described, except that being somewhat longer they occasionally require a little trimming.

The upper perineal sutures are passed deeply through the tissues, as in the operation already described. The lower ones are buried in the tissues up to the edge of the rent in the bowel, where, emerging from the margin of the mucous membrane on one side, they are made to re-enter at a corresponding point on the opposite side and finish their circuit through the tissues. By this means the rent in the bowel is closed by the lower perineal sutures themselves, rendering unnecessary the introduction of separate sutures from the rectum. The lowest perineal suture is made to pass through and bring together the divided ends of the expanded sphincter so as to ensure its restoration, which is, indeed, the main object of the operation. [During the discussion which followed the reading of this paper, Mr. Hardie referred to the importance of carefully dissecting the ruptured ends of the sphincter, so as to render the muscular fibres actually apparent to the eye. He considered that in this way alone could *muscular* union be ensured. The suggestion is undoubtedly one of great value.]

When the wire sutures are all in position, and before they are tightened, the flap sutures should be introduced, and tied in the manner already described. An assistant then, placing his flat hands one on each side of the wound and at a little distance from it, presses together the denuded surfaces so as to approximate their deeper portions and take off tension, while the operator tightens the deep perineal sutures and twists the ends of the wires, which should be done, not in the middle line just over the wound, but a little to one side. The margins of the skin may be secured in accurate apposition, if necessary, by superficial sutures of carbolised silk. Should the parts not come closely together at the angle of reflection of the flaps, an additional wire suture should be passed at that point, which need not, however, be carried so deeply as the others, but simply bridge across the wound at a convenient depth. —*Medical hronicle, Nov.* 1884, *p.* 128.

115.—ON POST-PARTUM AVULSION OF THE UTERUS, WITH A CASE FOLLOWED BY RECOVERY.

By J. Hopkins Walters, M.R.C.S. Eng., Reading.

In April, 1882, I was called by Mr. Cochran, of Caversham, to a patient, aged 22, in her third confinement. She had been attended by a midwife, who, after the birth of the child, finding the placenta did not come away, pulled at the cord, which broke at its attachment. She then introduced her hand, and tore away the whole of the uterus with the right ovary and Fallopian tube, portions of the round ligaments, left Fallopian tube and ligament of the left ovary attached to it. I saw the patient 21 hours after the accident, and found her under the influence of opium, and somewhat recovered from severe collapse. A large quantity of omentum protruded from the vulva, and in the upper part of the vagina was an enormous rent. I ligatured and cut away the omentum, which was cold and badly bruised at the level of the vulva; the parts were washed with solution of permanganate of potash, and a pad of salicylated wool applied. The opiate was continued, catheterisation ordered every eight hours, and the diet limited to milk and beef tea. The patient did well until the fifth day, when she was seized with shivering, her temperature fell to 97·4°, and pulse rose to 170. I then irrigated the vagina with solution of permanganate of potash, and finding that the vaginal fundus had well closed round the omental stump, afterwards used a solution of carbolic acid, quinine in large and frequent doses was combined with the opiates, and the vagina syringed every eight hours. On the 28th day the patient was able to drive five miles to the Royal Berkshire Hospital, where she remained under my care until the beginning of July, when the omental stump had frittered away, and the vaginal wound was perfectly cicatrised. At the present time, two-and-a-half years after the mutilation, the patient is in perfect health, and attending as usual to her ordinary occupations. After a diligent search I have found reports of 36 cases of accidental removal of the puerperal uterus, of which 14 recovered. Of all these only 3 were without doubt unattended by previous inversion of the uterus. Having regard to the medico-legal aspect of these cases, I wish to draw an important distinction between the accidental removal of the previously inverted uterus, and of the uterus that has not undergone inversion, on account of the possibility of uterine separation through spontaneous rupture. According to present experience, inversion of the uterus is not found to co-exist with rupture either of that organ or of the vagina; and where it is shown that the uterus was inverted before being torn away, it becomes tolerably easy to estimate the degree of criminal responsibility attaching to the attendant. On the other hand, where it can be proved that the uterus was never inverted, it is impossible to assert that the separation of the uterus was wholly due to violence, and not contributed to by a spontaneous rupture through the uterine or vaginal walls.—*Medical Times and Gazette, Oct. 25, 1884, p. 591.*

116.—ON THE INFLUENCE OF MORBID CONDITIONS OF THE UTERUS IN THE PRODUCTION OF THE SEVERE AND UNCONTROLLABLE VOMITING OF PREGNANCY.

By Graily Hewitt, M.D., Phys. to University College Hospital.

The facts and cases published and available for discussion of this question have been arranged and tabulated and analysed. The first series of cases are 32 in number, and include all cases I have been able to collect in which the condition of the body of the uterus was noted and observed in cases of severe vomiting in pregnancy. In a second series of cases, 13 in number, the condition of the os and cervix uteri was particularly noted and described. These two series of cases constitute the clinical data available for use in the discussion of the question as to the influence of the condition of the uterus itself in causing the vomiting; and they included 10 cases observed by Professor Horwitz, of St. Petersburgh, 8 recorded by myself, 7 by Dr. Copeman, 2 by Stoltz, 2 by Dance, and single cases recorded by other authorities. In the series of 32 cases there are 28 cases of a very typical description, in which sickness of an intense degree of severity was present in the course of the first half of pregnancy. In the majority of these 28 cases the vomiting was so severe that the question of artificial abortion arose. In 23 of these cases the uterus was in a state of decided anteversion or anteflexion, and in 12 of these 23 cases there was impaction of the anteverted or anteflexed uterus in the pelvis. In one case the uterus was anteverted slightly, but had been considerably anteflexed shortly before the pregnancy occurred. In 4 of the 28 cases, the uterus was retroverted. It thus appeared that, out of the 28 cases in question, the uterus was decidedly altered in shape and position in 27 cases, and in the one case remaining was anteverted slightly. The cervix was thickened and unduly hard in 3 of the 32 cases, and much thickened in 6 cases. In the other series of 13 cases, the cervix was described as very hard in 4 cases. In 2 cases (of the 32 series) pus was found between uterus and decidua after death. Excessive sensitiveness of the uterus was present in most of Horwitz's cases, and in four or five what Horwitz termed parenchymatous inflammation. The remarkable feature in the series of 32 cases was that in all the cases where attempts were made to raise the uterus from its displaced position, and when this attempt was successful, the vomiting ceased; whereas, when the attempt failed, the vomiting continued, and the patient died, the exceptions being those in which artificial abortion was induced, and one in which abortion occurred naturally. In some of the cases, artificial abortion was had recourse to as a primary procedure. Of the 32 cases 11 died, 20 recovered, in 1 result not known. The 20 recoveries included 6 after induction of artificial abortion, 1 natural abortion, 7 after manipulative treatment and replacement of uterus, 6 following positional treatment, rest, anti-inflammatory remedies, &c. The second series of 13 cases were, with one exception, cases in which the new treatment suggested by Copeman was carried out, and in which no record was given as to the state of the body of the uterus. In these 13 cases recovery took place. My conclusions are :—(1) That the cases in which the disease is due to some other organ than the uterus are so few in number (only 1 in the series of 32) that they may be almost excluded from consideration. (2) That in the large majority of cases the disease presents itself during the first half of pregnancy. (3) That the evidence points to interference with the normal expansion and growth of the gravid uterus as the condition of the production of this dangerous affection, and that this is most frequently brought about by or in connection with retention of the bulk of the uterus in the bony pelvis, in 88 per cent. the uterus being anteflexed or anteverted, and in 12 per cent. in a state of retroversion, the other conditions met with being hardness, resistance, or unusual rigidity of the os and tissues of the cervix. (4) There appear to be two factors to be considered capable of interfering with the expansion of the uterus (*a*) incarceration with flexion or version; (*b*) undue hardness and rigidity of os and cervix. These may be conjoined in a given case. It appears to be borne out by the facts recorded that the incarceration is the more important of the two factors, as a rule at least. The facts appear to point to the occurrence of embarrassment in the expansion of the uterus very early in the pregnancy, such as might be expected to be occasioned by a previously flexed state of the uterus, or by a congested indurated state of the cervix, or by the two conditions combined. As the pregnancy advances, the congestion and swelling are intensified, and the resistance to expansion thus increased. It appears probable that the particular cause of the sickness observed is the compression of the nerves situated in the tissues which are especially exposed to compression, viz., those around the cervix uteri, and especially those near the internal os. Copeman's success in the treatment of severe sickness by dilating the internal os is evidence in this direction. The importance of the flexion element has been denied, one principal objection being that sickness is not always present when the uterus is flexed. But the case is the same in the non-gravid uterus; severe sickness is not seldom due to flexion of the non-gravid uterus, while flexions are observed without sickness. As a rule, severe sickness is limited to the first half of pregnancy; in a very few cases it persists longer; in these rare cases, the cause may be rigidity of the tissues round the internal os, persisting to a late period. As regards treatment, the first indication is to secure the normal upward movement of the fundus uteri, to relieve the incarceration of the uterus, when present, if that be possible, and to prevent its occurrence by a properly arranged method of treatment. Absolute rest in the supine position if anteversion be present, or on the face or side if retroversion be present, and the use of the knee-elbow position, will be required. These measures suffice in many cases. If the uterus be fixed, gentle continuous pressure must be applied internally by the fingers, or by an air-ball, and the position maintained by a suitable pessary. These measures failing, Copeman's procedure of dilating the cervix should be employed. The last alternative, induction of artificial abortion, will, I believe, be rendered unnecessary if the other less severe measures are applied sufficiently early.—*Medical Times and Gazette, Nov.* 22, 1884, *p.* 730.

117.—OVARIAN DISEASE COMPLICATED WITH PREGNANCY —OVARIOTOMY—PORRO'S OPERATION—RECOVERY.

By Mr. George Fortescue, Australia.

The patient was an unmarried girl, aged 21, who had suffered from pain in the pelvic region for two years, and had for some months noticed a swelling in the lower part of the abdomen. She came under observation in September, 1883, and menstruation had then been absent a month. The physical signs indicated an ovarian tumour springing from the right ovary, and a preliminary tapping gave some thin colloid semi-fluid material, containing paralbumen. After the tapping, a smaller cyst could be recognised, extending to the left of the other one and upwards. In January the operation of ovariotomy was determined upon. The possibility of coincident pregnancy was borne in mind, but seemed to be negatived after a careful examination from that point of view. When the abdominal section was made, two cysts came in sight; the larger one was punctured, and a large quantity of dark coloured semi-fluid material evacuated; and, as the other cyst was in the way of the withdrawal of this one, it too was punctured, and a watery fluid escaped. On withdrawing the trocar, however, there was tolerably free hemorrhage. This was stopped by the pressure of the forceps, and a more complete examination disclosed the fact that this second tumour was the pregnant uterus. The fœtus, placenta, and membranes having been removed, it was decided, seeing the somewhat rough handling the uterus had received, that it should be removed. This was accordingly done, the right ovary being removed with it. The peritoneal edges of the incision were applied closely round the pedicle, but were not sewn to it; a drainage-tube was put in, and the wound dressed antiseptically. The antiseptic spray was not used, and the operation lasted about an hour and a half. The patient made an uninterrupted recovery.—*Med. Times and Gazette, Nov.* 8, 1884, *p.* 659.

118.—THE QUESTION OF THE IMPORTANCE OF FLEXIONS AND DISPLACEMENTS OF THE UTERUS.

By Graily Hewitt, M.D., F.R.C.P., Professor of Midwifery and the Diseases of Women, University College, London.

[The following article will be better understood by referring to Dr. Vedeler's statistics, a *résumé* of which by the Editor of the Lancet is given in *Retrospect*, vol. 86, p. 282.]

What in fact is the relation subsisting between a patient with flexion, but without suffering, and another who presents a condition of suffering in conjunction with flexion, to which are found added congestion, marked derangements of the functions of the uterus of various kinds, &c.? It is plain that this question can only be answered by careful clinical inquiry. One thing is certain, that some women are "weakly" in regard to the uterine organs, and some are comparatively "strong," as the phrase is. There is a predisposition to further and more decided disease in the weakly individuals, and this predisposition is, according to my belief, founded on long experience, a condition of the uterus such as allows it too readily and too easily to assume a more or less flexed shape. It is easy to understand that this kind of predisposition is common, for the number of young women who are really "strong" is not very great. It is further to be pointed out that when the uterus is flexed, the fundus, being directed forwards or backwards, offers a mechanical condition which probably favours to a considerable degree the occurrence of further flexion or the intensification of such flexion. Forces acting downwards, such as severe straining, will necessarily, as it appears to me, cause the free end of the lever, which is also the weightier, under these circumstances, to descend lower in the pelvis. Dr. Berry Hart, in criticising my views on the etiology of flexions, has pointed out that the central part of the uterus not being a fixed point, the effect of such downward pressure will be to cause rather a prolapsus than an increase of flexion.

Flexion of the uterus implies a certain degree of displacement of the organ. When the uterus is abnormally bent backwards, for instance, the fundus is in a position of displacement, and the cervix is also more or less displaced. There may be also a displacement of the organ as a whole downwards.

Mere displacement without flexion is often attended with symptoms, sometimes severe ones; but clinical facts show that, taken as a whole, versions, for instance, are incomparably less important as regards production of symptoms than those cases in which the uterus is bent. This, to my mind, is one of the great proofs of the importance of the latter condition.

The explanation, therefore, of absence of symptoms in certain cases when flexions are present, is that the growth of the flexion has been slow, and secondary effects have not been developed, the uterus gradually accommodating itself to the altered shape. The explanation of the occurrence of symptoms is that there is either a sudden displacement and bending of the uterus, which may or may not have been previously flexed to a certain degree, or that the bending and displacement have become gradually intensified up to such a point that accommodation power is overstepped, and the symptoms slowly but certainly show themselves.

The question really at issue in these discussions regarding flexions is the influence exercised by them in bringing about other conditions, termed variously chronic inflammation, congestion, &c., which all recognise as abnormal. These other conditions are, it is admitted, frequently found associated with flexions, and they have to be explained. At the present moment, the explanation which has been given of their occurrence, that they are traceable to the presence of flexions and displacements, is contested on various grounds, one being the fact that flexions are frequently found in cases where there is no other alteration. This argument I have already dealt with, but others remain to be considered. The question as to the manner in which "congestion" of the uterus is produced is a vital one in uterine pathology. I was led to form my present opinion on this subject by clinical observations simply and solely. Having so constantly observed that patients suffering from congestion of the uterus were relieved, and the congestion diminished, by altering the position and shape of the uterus, it naturally occurred to me that the congestion must be due to the altered shape and position of the uterus, and the result above described was found to follow so frequently as to leave no doubt in my mind that the congestion was in great part, at least, a mechanical one. Constant observation of the phenomena described, extended over some years, has induced me to consider this account of the causation of congestion of the uterus in the vast majority of cases as accurate. And I am convinced that change of shape of the uterus, such as is involved in the sudden production of a severe flexion, or in the continued and gradual intensification of a previously existing flexion, is precisely what constitutes the principal factor of congestion of the uterus as it is clinically met with. The mere change of shape, occurring in this way, affects the uterine circulation, I believe, by impeding its free course at or near the centre of the bend. In cases of flexion, however, there is always more or less displacement, and not seldom a displacement directly downwards, so that the pressure of the uterus may no doubt interfere with the circulation outside the uterine walls, and in other methods presently to be mentioned. I repeat, the effect of straightening the flexed uterus in reducing an accompanying congestion has so constantly shown itself in cases under my observation, that flexion and congestion appear to me to stand in positive relation as cause and effect.—*Lancet, Feb.* 7, 1885, *p.* 243.

119.—ON THE OPERATION (ALEXANDER-ADAMS) OF SHORTENING THE ROUND LIGAMENTS FOR UTERINE DISPLACEMENTS—WITH CASES.

By W. L. Reid, M.D., Physician to the Dispensary for Diseases of Women, Western Infirmary, Glasgow.

From my friend, Dr. James A. Adams, of Glasgow, I had heard of his operation for replacing displaced uteri a considerable time before I knew it had been proposed and practised by Dr. William Alexander, of Liverpool; but I did not attempt the operation until I had seen the latter gentleman perform it on the dead body, and had heard particularly of his results in the living subject. Although, from the position I occupy, I had abundant opportunities, it seemed right to wait until I met with what appeared to be test-cases, in women who were willing to have practised upon them an avowedly new and so far untried operation; and it is to the histories and results of three such cases that I now direct your attention. Possibly, some little extra interest may attach to them, in so far as, to the best of my knowledge, they are the three first successful cases operated on in Scotland, speaking of them simply as operations for replacing displaced uteri.

Case 1.—Mrs. McG——, aged 33, began to menstruate at 16, and was regular till pregnancy, two months after marriage, at 20. She had one child naturally, and had never been well since. The uterus was found much hypertrophied and retroflexed. The left ovary was prolapsed. She complained greatly of backache, pain in the left ovarian region, and inability to walk any distance. There was great and continuous leucorrhœa, and intercourse was almost unbearable. Dysmenorrhœa was severe, and there was frequent micturition, especially during the night. These symptoms had continued more or less steadily for ten years. She was treated by me at the Western Infirmary for nearly two years, during which time she obtained temporary relief from pessaries, glycerine tampons, scarification of the cervix, and intra-uterine applications of iodine and of nitric and carbolic acids.

On November 1st, 1883, assisted by Drs. James A. Adams, George A. Turner, and James Ross, I performed the operation of shortening the ligaments. The pubes was shaved and washed with carbolic water, and carbolic spray was used during the operation. An incision was made on the left side from the pubic spine upwards and outwards for two inches, and carried down to the tendon of the external oblique muscle. The external abdominal ring was felt, and the tissues coming out of it were gathered up by an aneurism-needle, and seized with the fingers. They could not be drawn out, even by the exercise of considerable force. They were then grasped by a pair of broad-pointed dressing-forceps, and freed from the surrounding tissues with the help of the scalpel; and, on continued pulling, they very gradually came out, until the firm round ligament appeared. The same procedure was repeated on the opposite side. A sound was then passed into the uterus, and the organ braced well up in its normal position, and the ligaments were pulled on until they were found to be fixing it there, when fully two inches were found drawn out on each side. Three strong chromicised catgut stitches were passed through the pillars of the ring, each transfixing the cord. These were not tied very tightly. The ends of the cord were folded up in the wound, and the edges of the skin brought together by gut-stitches over a rubber drainage-tube. To take the strain off the ligaments, a pessary which the patient had worn before was introduced. A dressing of gauze and cotton-wool was applied, and kept in place by an elastic bandage. In the evening the pulse was 90, and the temperature 100·2°. The patient complained only of something being "very tight" in the lower part of the abdomen. The wounds were dressed without spray, with the idea that the scar-tissue wonld be firmer if suppuration were allowed to take place. It would serve no good purpose to give careful details of her progress; suffice it to say, that the wounds were dressed twice a day for four days, and once a day thereafter, until she was dismissed on the twenty-sixth day, there being then only a corner of one of the wounds unhealed. Her highest temperature was on the second day, namely, 101·4°; on the third day it fell to 98·6°.

At the time of her dismissal, she complained of frequent desire to pass urine when standing or walking, but this soon passed off. The pessary was left in position, and was not removed until a month afterwards.

On April 21st, six months after the operation, I saw and examined her. The cervix was found high up, and normal in position. The fundus could not be felt in the posterior vaginal fornix, but the point of the sound passed backwards, showing that the organ still remained flexed.

On July 23rd, when asked to what extent she had improved since the operation, the patient mentioned the following points. The dysmenorrhœa and dyspareunia were both gone; she did not require to micturate during the night; defæcation was much more easy; and the weakness of her legs was so much improved, that she could walk two miles without special fatigue. On the other hand, she still complained of backache and ovarian pain; the uterus was still three and a quarter inches in depth; there was erosion of the cervix, and a muco-purulent discharge from the os uteri. I may add that, since the operation, the ovary has never come within reach.

Case 2.—Mrs. H——, aged 31, was first seen by me on September 4th, 1880, when the following note was taken. She began to menstruate at 10, and was regular, with some dysmenorrhœa on the first day, until pregnancy, two months after marriage, at 21. She menstruated one month after her labour, which was normal, except that the second stage was long. Milk died away when menstruation appeared. She had been quite regular, but never felt well since her confinement. She complained of backache, leucorrhœa, frequent micturition, and of a sharp attack of diarrhœa, which came on every morning immediately after rising, and did not return during the rest of the twenty-four hours. She had no ordinary dysmenorrhœa, but suffered severely from headache before and during each menstrual period. This symptom was often so severe as to be accompanied by delirium, and to confine her to bed for three or four days. The patient was stout and florid. The uterus was found retroverted, three and a half inches in depth, very heavy, The cervix was hypertrophied, and patulous. The perinæum was partially destroyed, and much relaxed.

Her history for the next three years may be summed up in saying that, by the use of the means mentioned in connection with the case already detailed, she obtained at various times great relief, which, however, never lasted more than a few weeks; and, on November 3rd, 1883, her ligaments were shortened. The operation was like the former, except that the left ligament broke while being pulled out, and the canal had to be laid open to the extent of about half an inch before it could be again caught up. In this case, except during the operation, the spray was not used. Pus appeared on the fourth day; and by degrees the slack of the ligaments sloughed away, as, indeed, they also did in the first and third cases. The discharge was never great, and the patient was sent home on the twenty-third day after operation, she having been more or less out of bed for some days previously.

The note taken a fortnight afterwards is as follows. The patient had been going about freely for the past week, and had menstruated without headache, or any disturbance whatever. She stated that she felt perfectly well. The uterus was found somewhat anteverted; the cervix high up, and the whole organ lying nearly horizontally across the cavity of the pelvis, yet easily movable. This condition of comfort continued for nearly three months, when many of her old symptoms reappeared. On July 2nd the following note was taken. The uterus was in the position formerly described as existing after the operation; the cervix was smaller and softer; the cavity was three inches in depth, and considerable leucorrhœa existed. The patient complained of backache, and pain in the left ovarian region, on much exertion, and had occasional attacks of morning diarrhœa. When questioned as to improvement, she unwillingly admitted that she had less diarrhœa, much less headache, was much more able to walk freely, and the bladder trouble was gone. She had become very stout, but thought herself far from being well.

It is somewhat difficult to arrive at a sound conclusion in regard to new operative means for the relief of disease. Men are apt to range themselves for and against a new method, and give their experiences shaded or brightened by preconceived notions on the subject. In giving the details of the above cases, I have tried to make plain unvarnished statements, and leave you to draw your own conclusions from them. Permit me, in closing, to advert to one or two points in connection with the operation, drawn from my personal experience, and state my own belief in regard to its results.

1. It is better to use the spray, and to keep the wound aseptic until it has wholly or nearly healed. There is hardly any hope of its healing by first intention; but, if kept aseptic, it heals more quickly than it would otherwise do.

2. The loose part of the cord should not be folded up in the wound, but the greater part of it cut off, so as to avoid the presence of sloughing tissue in the wound. Properly secured by sound stitches, and with the uterus supported by a good pessary, there is no danger of the cut ends being drawn into the abdomen, they being soon secured by adhesion.

3. The ends of the ligaments can most easily be reached by standing on the side on which you are operating, as the outer edge of the ring is more easily felt by the finger when one stands on the same side.

4. Contrary to Dr. Alexander's recommendation, I have found that the end of the round ligament is more easily isolated by grasping it with a broad pair of dressing-forceps. The cross fibres which prevent it from running out can then be cut or torn gently away, one by one, until it begins to come out freely. In my second case, where the fingers were used, the ligament broke, and the canal had to be opened up before it could be again seized.

5. In this region, an elastic bandage put round the waist and thighs will be found more effective in keeping the wound aseptic than a large dressing with an ordinary or flannel bandage, as the former adapts itself to the varying position of the limbs, and prevents air from being drawn under the dressings.

Referring to the results of these cases only, it seems to me that we cannot promise much in the way of certain and immediate relief from this operation. It remedies the *position*, but not the *condition*, of the uterus. I caught at it because, although often using severe means, I have been very unsuccessful in curing chronic hypertrophy of the womb, especially when accompanied, as it so often is, by some form of displacement. The results of this operation, as I have given them, although far from brilliant, are such as to lead me to continue practising it in obstinate cases, in the hope that, the malposition being remedied, the disordered condition may be more readily subdued.—*British Medical Journal, Nov.* 15, 1884, *p.* 958.

120.—ON LUPUS OF THE PUDENDUM.

By J. Matthews Duncan, M.D., F.R.S., Physician Accoucheur to St. Bartholomew's Hospital, London.

The disease affects women chiefly during the child-bearing period of life. I have seen it in a child, but at that age it is extremely rare, and I may interpolate the remark that it does not occur in males, or, at least, is very rare in that sex. The disease is generally said to be very uncommon even in women, but that is not my opinion; we are seldom without several cases in "Martha" during a session.

We have been in the habit of speaking of cases that are in measurement small, as instances of lupus minimus; and of cases with great measurements, either of hypertrophy or of destruction, as cases of lupus maximus; and it is curious that we have never observed a case of the former to grow into one of the latter, or *vice versâ*. The case, for instance, that I described in my lecture on vaginismus was for six years under observation, and to the end it was one of lupus minimus. Little ulcers healed up, little ulcers came; a urethral caruncle appeared; the hymen became indurated and had little nodules on it; but after all it was always minimus. On the other hand, our most monstrous case, nine, or more strictly three, years under observation, has improved considerably, but has not in dimensions undergone much change. We have no good account of it as at one time minimus. I have, indeed, never had the good fortune to see a case grow from being minimus to being maximus; yet such growth must take place.

A case of lupus minimus may very naturally be classed, on superficial examination, with urethral caruncle, or eczema of the vestibule, or pruritus pudendi. A case of lupus maximus may be taken for one of tertiary syphilis, or of elephantiasis, or of cancer. Cancer is easily distinguished; and we have taken special care, in all our recent cases, to look for and consider any indications of syphilitic taint. I have no doubt that the alleged rarity of the disease is to be accounted for by the mistakes I have referred to.

Lupus of the female genital organs is best known as a disease of the pudendum and neighbouring parts; and these are really far most frequently its seat, but it may spread over the adjacent parts of the thighs and the hips. It may attack the vagina and the urethra and rectum; it may attack the cervix and body of the uterus. I do not know of its affecting the tubes.

It is interesting to notice that the face and the pudendum in women are the favourite seats of this kind of disease; and any one familiar with the appearances in the face recognises some degree of similarity in cases of the disease in the pudendum. There are, so far as my observation goes, no tubercles to be seen in the pudendal disease. Why this should be so I cannot say. The moisture of the vulva may transform little tubercles into the little red spots seen there; but the disease affects parts of the pudendum that are not kept moist, and there I have not noticed tubercles.

The cases have a general outward similarity, and there is a uniformity of structure as revealed by the microscope—no new or specific elements being found, but the presence of young or growing fibrous tissue with many leucocytes, these often grouped around the vessels. I pretend to no histological authority, and merely tell you what Dr. Thin has told me, after having examined many specimens sent to him from "Martha,"—that the disease is histologically unlike ordinary lupus, the morbid structure being diffused in the affected parts, not occurring in nodules or tubercles. Whilst in ordinary lupus the cells undergo a series of retrogressive changes, in the disease of the pudendum the cells are found either as simple white blood cells or as connective cells in various stages of development. In ordinary lupus the distinctive cells are associated essentially with destruction of fibrous tissue; in the pudendal disease they are associated with the formation of fibrous tissue. The disease has been said to have alliance with scrofula; but I have failed to trace, clinically, any such connection. No doubt in some cases it is a syphilitic disease, but this complication we have done our best to exclude from the cases which form the groundwork of description here. We have, indeed, only very rarely met with evidence of syphilitic taint. The women affected are often of fine, healthy, even blooming appearance. The disease has a peculiar history, and such extraordinary changes or transformations as to separate it from every other.

This lupus is characterised by ulceration, lupus ulcerosus; by destructive ulceration, lupus exedens; by hypertrophy, lupus hypertrophicus. There may be no hypertrophy in one case and in another there may be no ulceration, or such destruction as is implied by exedens. I have never seen great hypertrophy without some ulceration, but often without marked destruction of parts; ulceration and ulcerative destruction without hypertrophy is not rare. Besides, you have discolouration often, and often inflammation of the affected parts, and of the neighbouring organs—the urethra, the bladder, the vagina, and the rectum. We had a case in which there was inflammation and stricture of each of the three passages.

The disease gets its name (lupus) from the ulcerative destruction which it frequently causes. The ulcers, whether exedent or not, secrete pus copiously, sometimes laudable pus, sometimes thin and watery. They may affect hypertrophied parts and have no destructive quality. They may cover a great area, the extent not being discovered until the parts are unfolded. They may burrow and be like abscesses, having small openings; or they may burrow far and wide, and form large empty caverns with large openings, potential caverns, for the sides mutually touch. They may be numerous. They may heal altogether or only in parts. They may bleed copiously. Their occasional gnawing quality is often wonderfully displayed in destruction, which may remove the whole ano-perinæal region, including the viscera there—the urethra, vagina, and rectum. When the uterus is affected the peritoneum may be perforated. In lupus minimus there may be only little red pin-head spots, which change, healing and re-appearing as months go on; or there may be a small scarcely ulcerated reddish patch; or a little ulcer on a urethral caruncular hypertrophy, or on a coriander seed hypertrophy on the hymen, or near it.

The hypertrophies vary as much as the ulcerations. I have never seen them so great in lupus of the face, or of any other part of the body. When great, they are generally ulcerated and generally on their inner sides, or where they are in contact with other parts. Sometimes the hypertrophy of a nympha or of a labium majus, or of both, has no morbid appearance or feeling except size. The same is true of the masses sometimes observed around the anus. In the case of lupus minimus so often referred to, the left nympha was, at the end of six years, unexpectedly found in this state. It presented, on histological examination, nothing peculiar, and we would not have known it was diseased, had we not seen it previously like its neighbour, and now four times as big. Sometimes, as in one of our hemorrhagic cases, there seems to be a new development of nympha, that part not terminating at the side of the vaginal orifice, but encircling it posteriorly in a copious frilled healthy-like fold. The hypertrophy may extend over the hip with or without deforming it. It may, in the pudendum, result in the production of large irregularly lobed projecting masses. In one case we had a fantastic appearance, which I show you, several rounded white masses hanging suspended by long threadlike white stalks. A large hypertrophy is generally ulcerated somewhere, but I have never seen it destroyed by such ulceration or removed. There is no doubt that, in many cases, the urethral caruncle is merely one of these hypertrophies.

The colouration of ulcerated parts is always red, more or less pale, or more or less deep. Other parts may have a natural brownish or red tint, or may be deep red, especially if inflamed, or they may be pearly or ivory white.

Inflammation, as I have already said, is not uncommon, more common in the neighbouring mucous tracts than in the ulcerated and hypertrophied parts. In the mucous tracts the colouration is deep red, and the secretion of pus is copious. The inflammation frequently leads to stricture. Adjacent parts of skin, as between the hips, are sometimes intensely and chronically inflamed, copiously secreting pus, and this without any distinct ulceration, only a scarcely raw redness without defined edges.

The disease is often marvellously without symptoms, only the inconvenience of the hypertrophy or of the discharge, or of both. A woman with extensive ulceration may think she has only whites, and cohabit, and bear children; or she may not suspect she has any special disease till she is seized with copious hemorrhage. But there are other cases where, without inflammation, and generally in minimus cases, the sensitiveness is extreme, and this great difference in cases has made me doubt the identity of the disease in them. When there is inflammation, the inguinal glands may be affected, and they may, though rarely, be affected without inflammation. Of course, when parts are inflamed we have the usual symptoms of that condition.

From cancer the disease is easily distinguished histologically; but without resort to that evidence, you will know the malignant affection by its appearance, its history, and by the early enlargement of the inguinal glands if it affects the vulva. If the disease is altogether internal, you may have great difficulty in diagnosis.

Elephantiasis is a disease affecting the clitoris or labia only, a great hypertrophy of slow growth, sometimes curiously and regularly nodulated, as in this specimen, without the exedent ulceration of lupus. It is also distinguished by histological characters. I know little of it, for it is rarely seen in these countries.

There is a sort of elephantiasis seen in tertiary syphilis, of which I know very little. In cases I have seen the hypertrophy has been considerable, not at all like that of this lupus, nor like the enormous growths of elephantiasis. It is of a uniform dull leaden red colour, generally smooth on the surface, sometimes superficially ulcerated in mutually touching surfaces, sometimes fenestrated, and the inguinal glands are affected.

As the lupus varies in its characters with the lapse of time, so it is natural to expect that it should be regarded as amenable to treatment; and, no doubt, great gain may come from treatment, especially surgical interference. This consists in removing hypertrophic masses, and in cauterising ulcerations; and both these operations are best done by actual cautery; and when the galvano-caustic is available, I prefer it. I do not say you cure the disease by this means, but you have seen cases of great extent and severity very greatly ameliorated by it, the women going away believing themselves cured.

The mucous membrane inflammations are treated just as such inflammations are treated in other circumstances, but we have learnt to attach special value to mercurials, using chiefly the lotio nigra as a wash, or applied in strips of lint. Under favourable circumstances and treatment, it is interesting to notice the softening or even disappearance of strictures caused by these inflammations.

Constitutional treatment is not to be neglected. Regulation and maintenance of general health, the use of cod liver oil, of arsenic, and of iron.

Lupus is not a fatal disease, and few autopsies are recorded. They have as yet added nothing to our knowledge of the specialities of the affection.—*Medical Times and Gazette, Nov.* 15, 1884, *p.* 671.

121.—ON THE "DISEASES AND ACCIDENTS" OF UTERINE FIBROMATA.

By J. Matthews Duncan, M.D., F.R.S., &c.

While there is no doubt that the great majority of cases of uterine fibroid do very well without any surgical treatment, the women suffering little in any way, or their sufferings coming to an end and that generally about the menopause, I am sure that the number of fatal cases is greater than is generally supposed, and I propose to tell you what I know of these dangerous kinds and accidents. What I know is very little compared with what science is asked to yield with a view to settle the question of the extent of applicability of oophorectomy and of hysterectomy.

The continued growth of a tumour indicates a continued active life, and is itself important apart from the mere increase of size. There is no time or size at which a tumour may not fortunately cease to grow; and, as a general rule, with stoppage of growth, comes some relief from symptoms, and that even without considering such symptoms as may arise from increase of size. It is justly held that, at the menopause or near it, a tumour will cease to grow, and this is the greatest fact for the practitioner in his consideration of such cases; for with cessation of growth, will probably come the cessation of all attendant evils. But a tumour may continue growing after the menopause. Indeed, rare though it be, and always a suspicion-exciting phenomenon, a tumour may, after having ceased to grow for long, begin again to increase in size, and this injurious recommencement may be long after the menopause. A growing tumour is generally not a very hard one, and generally it has tender parts which sometimes appear to be the growing parts. A fibroid is not like an apple or a cherry which grows to a certain size and no farther. It may in a long life become no bigger than an apple, or it may grow more or less rapidly to be much bigger than a nine months' pregnancy. We have still to discover the laws which regulate the growth.

Increase of size, even up to enormous dimensions, is rarely a cause of danger, but it is the cause of great inconvenience, and of many minor symptoms such as are sometimes induced by advanced pregnancy. A woman carrying a large tumour has much risk from mechanical injury. Increase of size sometimes induces for a time retention of urine, which has to be relieved by catheter. This happens mostly in tumours of moderate size, that of a fœtal or of an adult head, and mostly before the advent of the menstrual flow, when the tumour is temporarily enlarged by vascular congestion. A great deal of very vague talk goes on about pressure by tumours here and there, to which you should give little heed; but you must remember that a tumour does sometimes obstruct the rectum, though very rarely, excessively rarely; sometimes it partially obstructs a ureter or both ureters. Obstruction of the bowel may necessitate colotomy or may be fatal. I have not seen such a case. Obstruction of the ureters, if complete, is soon fatal; of partial obstruction we have had an example in "Martha." In it hysterectomy might have given relief, but the operation would have been specially dangerous on account of the state of the kidneys, and, for the same reason, complete cure would probably not have resulted from it, even if it had been successful.

Apart from the great inconvenience of a large tumour, and from the risks of pressure and the risk of injury, there is other evil from size. A woman with an enormous fibroid will not live to be an aged woman.

A tumour does sometimes, but rarely, spontaneously decrease before the menopause; it may do so under the influence of ergot of rye. After the menopause it is the rule for tumours to become harder and smaller, and it is certain that they are sometimes altogether absorbed.

A tumour is rarely calcified *en coque*. Dendritic, internal, coral-like calcification is more common, and masses of this nature, sometimes discharged per vaginam, are the uterine calculi of old authors. Sometimes there occurs a uniform calcification of the whole of a tumour which has been a pediculated peritonæal fibroid; such tumours having been found loose in the peritonæal cavity.

Calcification is not the only kind of degeneration of fibroids. It is a comparatively harmless change, but more injurious and dangerous degeneration may occur. I have seen the dissolution of the interior of a large fibroid, changing it into a large cyst with ragged, breaking down walls, and filled with a grumous fluid, the result of this breaking down. In this case, there was progressive degradation of health, and the tumour was successfully removed. Besides breaking down, a fibroid may undergo malignant degeneration. Still more, we have here a specimen from the museum, with a well known and prolonged history of uterine bleeding and other illness, where a fibroid (which had been removed by enucleation) led the way to enormous uniform uterine hypertrophy, probably also myosarcomatous, and to malignant growth in the pelvis, and diffused cancer of the peritonuæm.

A pedunculated sub-peritonæal fibroid may become adherent to a neighbouring viscus, and may, in the course of time, lose its uterine attachment, maintaining its attachment to the viscus; and the viscus may carry it into a position remote from the uterus. A stalked tumour may also be so turned around and around as to strangle itself by twisting the pedicle. This I have seen happen during pregnancy, with a rapidly fatal result.

A fibroid may be enucleated spontaneously, being pressed out of its bed through an opening formed in the capsule, which permits it to pass into the uterine cavity and onwards. This process is often successfully imitated by art; or, when half completed spontaneously, is finished artificially. During the process the tumour generally maintains a kind of life, in rare cases sphacelating only at its lowest part; and when it does maintain life it is generally discharged entire or at least in one mass. But the whole tumour may sphacelate *in situ* and be discharged in separate, dirty, putrid, ragged masses. This sphacelus is sometimes a consequence of partial enucleation, but generally the sphacelus is spontaneous, and the discharge seems to be consequent on the sphacelus, which probably extends from the tumour to that part of the capsule which separates it from the uterine cavity. This sphacelus appeared in one of our cases to be caused by the action of ergot. Generally, it is probably a consequence of inflammation of the tumour. I do not remember a fatal issue from this spontaneous process, and I have seen many examples of it, but I have seen the sufferer apparently in great danger from sapræmic poisoning during its progress.

Phlegmasia dolens may attack a woman suffering from a fibroid, generally a big fibroid. She is also, especially as she gets old, liable to chronic peritonitis with much effusion; and this, though not an urgent matter at first, goes on long and leads to a fatal result. Further, she is liable to violent attacks of acute general peritonitis; and this, if suppurative, will prove rapidly fatal.

These inflammations are diseases superinduced on other diseases; but besides these there are intrinsic diseases of diseases. I have already mentioned cancer of a fibroid, a disease of it just as a tooth in a dermoid cyst may be carious: or, as in this specimen from the museum, a fatty tumour may grow inside a fibroid. The inflammations of fibroids are diseases of a disease, and none are more important. It is not their frequency alone which gives them importance, but also their gravity in many cases. I shall enumerate them. Abscess inside a fibroid has been described; I have not seen it: nor have I seen a post mortem of an abscess around a fibroid, that is, suppuration of its capsule. Endometritis with fibroid is not rare, but I know little exactly regarding it. The great inflammations of fibroids are our old friends, perimetritis and parametritis; and they are common. We are seldom many weeks without a case, or cases, in "Martha." When the history is not well known, that is, when it is not known that there is a fibroid, the diagnosis is often difficult. The presence of the tumour is obscured by its fixation and by the diffused inflammatory swelling which envelops it, as in a cloud. These cases are often severe and prolonged, especially after delivery or miscarriage, and they have all the ordinary history of perimetritis and parametritis.

A fibroid often induces the growth of mucous polypi of the body or of the neck of the womb, and these aggravate and prolong hemorrhage. Bleeding is the great evil of fibroids, increasing with the nearness to the mucous membrane, and with the increase of extent of the cavity of the uterus. Rarely does it take the form of intraperitonæal hemorrhage, or hæmatocele, but cases are recorded of the opening of a dilated sinus into the peritonæal cavity with copious and fatal hemorrhage.

If hysterectomy is ever to be established, hemorrhage will be the great and chief motive. All other evils are minor, because rare. In any single case, and the judgment is of single cases, not of all cases as in ovarian dropsy, the occurrence of frequent and copious bleeding and great anæmia will not justify an operation so dangerous as hysterectomy is at present. I know several now healthy and happy old ladies who, for many years before the menopause, were in extreme anæmia, and some to whom I had recommended operative interference. Unfortunately, in some cases there is no menopause, or bleeding recommences after the menopause. Experience and wisdom, with minute consideration of the operation circumstances of each case, are necessary to the formation of a judgment as to the prudence of hysterectomy or oophorectomy for hemorrhage.

Merely adding mention of the dangers of pregnancy, of abortion, of miscarriage, of labour at term, I feel sure I have not enumerated all the accidents and dangers of fibroids. Lately, for instance, I attended a fatal case of a large fibroid in an old lady who had enjoyed fair health for many years after the menopause, a case in which a hysterectomist had refused to interfere, and I cannot tell you its pathology exactly, for there was no post-mortem. The tumour became painful and generally swollen. The skin over it had a permanent blush of inflammatory redness which varied much in extent. The whole lower half of the body became œdematous. There was much diarrhœa, and occasionally sickness and vomiting. There was but little febrile disturbance. All this went on for about a year before death terminated the case.—*Medical Times and Gazette, Jan.* 10, 1885, *p.* 39.

122.—ON ENDOMETRITIS.

By J. Matthews Duncan, M.D., F.R.S., &c.

Who can tell what any one means by endometritis? I will first make it clear what I do not mean by it and what I do mean by it. It is not chronic cervical catarrh or "ulceration," a disease which is sometimes called cervical endometritis. The uterine cervix is a different organ from the uterine body, and endometritis is inflammation of the corporeal endometrium, that is, the mucous membrane of the body of the womb. Those who speak of cervical endometritis speak of this as corporeal endometritis. Time is too precious to permit the survival of such long names as "corporeal endometritis." Further distinction has been made of inflammation of a part of the corporeal endometrium, that of the fundus uteri, fundal endometritis; and this I cannot adopt, in the meantime at least. No doubt a part, not the whole, of the corporeal endometrium may be inflamed, partial endometritis, but that is a very different matter from describing as a distinct disease an endometritis of the fundus.

Inflammation of a part or of the whole of the corporeal endometrium I shall call endometritis, and in so doing I believe I concur with the best literary examples.

I may, in passing, mention to you the occurrence of endometritis in pregnancy—decidual endometritis. Sometimes a hypertrophic endometritis is seen in abortions, sometimes a croupous, sometimes a catarrhal, with or without accumulated hydroperione. Exaggerated hypertrophic endometritis is occasionally observed in abortions after fever, and I have seen it well developed after ordinary typhoid. With or without syphilitic infection you may have decidual endometritis, affecting the vera, and producing projecting masses or little tubera, or affecting the serotina and resulting in the production of fibrous tissue and sometimes consequent adherent placenta. Then you have catarrhal inflammation of the vera, often seen in advanced pregnancy, and often the cause of the hydrorrhœa gravidarum.

Again, you have endometritis of the puerperal state, sloughing or diphtheritic, seen in post mortems. Rarely you have purulent endometritis after delivery, with very copious flow of laudable pus; often you have catarrhal endometritis, with copious flow of thin, and generally blood-tinged, serous fluid—lochial catarrh.

Then you have, after the puerperal state has passed, it may be long passed, and this whether the delivery was a mere abortion or at the full time, a purulent endometritis, the discharge being very copious and often fœtid, and all produced by a retained, often a putridly decomposing, bit of decidua, or of placental tissue. This disease you will not cure otherwise than by removal of the retained mass.

These various examples of endometritis have all connection with pregnancy, and are not, in ordinary medical writing or speaking, thought of when this disease is the subject.

The endometritis of elderly women, that is, of women after the menopause, is seldom heard of, but it is a true endometritis, not extremely rare, and we have had it illustrated in our work in "Martha." I call it the endometritis of elderly women because I have never seen it except in such. Here is a museum specimen of it, as observed in a case of cancer of the cervix. The internal os uteri had become closed—acquired atresia—and the body expanded into a globe as big as a small orange, its walls somewhat thinned (they were distended by pus), its internal surface lined by a thin pyogenic membrane. When an elderly woman has occasional or constant bloody, or blood-tinted, discharge, or purulent discharge, and still more when the discharge is fœtid, it is natural to entertain the gravest suspicion that she has cancer of some of the internal genital organs; and yet it may be only a senile vaginitis or an example of the endometritis of elderly women. Several such cases I have seen diagnosed as hopeless cancer of the uterine body, and yet they were easily cured. No doubt this is rare good luck, and it is important to know it. In this disease there is generally little or no pain, the woman notes only the new and alarming discharge. If you dilate the uterine cervix by tangle tent, and this must be done carefully, you find the uterine cavity somewhat expanded. Instead of having practically only two dimensions, it has three, or is more or less globose. Your finger passed into it may feel nothing peculiar, or it may feel a portion of the mucous membrane slightly elevated, and softer than the rest, and this is plainly the diseased part. It is cured by local applications, and the cure may be effected after the disease has lasted for years. In the few cases which I have observed, a 10 or 20 grain to the ounce solution of nitrate of silver has been used, injected through a hollow probe; or powdered nitrate of silver has been passed in Lallemand's port-caustique. But, alas, in most such cases you are doomed to failure. Good may come from your cauterisation, but the disease persists. It is a commencing epithelioma, not an endometritis. It is only in the earliest stages of commencing malignant disease that you are liable to this confusion, and I know of no way of diagnosing except retrospectively. If it is cured it is an endometritis. Retrospective diagnosis is not of much value to your patient. It is prognosis that you desiderate.

The next endometritis that I mention is the pseudo-menstruation of fever and of rheumatism. It is known to be an endometritis, for, after death in such cases, the mucous membrane is found in a catarrhal condition, swollen, red, and bleeding. The ovaries also are found to be affected simultaneously. In another place, indeed, speaking of ovaritis, I have pointed out its frequent association with corporeal endometritis, and pseudo-menstruation.

Now, at length, I come to what would be in the present day called the real (the common!) endometritis; and I know nothing more unsatisfactory. I often hear of it, but very rarely do I find any evidence of its existence. Much is said of it, and I remind you that many authors delight in long descriptions of what is little known or not known. There is, truly, little to be said of what is known. If you go back to the French journals and elsewhere to read the first and startling descriptions of this disease, you will be very much disappointed—little else than verbiage. The disease is often called granular; but who has seen or knows anything about these granulations? No doubt a granular condition, seen after death, has been described, and this is very valuable; but in the case whose post-mortem description I remember, there were no symptoms during life. In reading and in conversation I often meet with a granular condition observed during life, but all the time I am inwardly most sceptical. I have looked for it carefully and often, but I have never seen it or felt it. Then it is said, Oh! take a curette and scrape it out, and then you have the diseased tissue in your hands. But the scrapings are very small, and you would get the same by scraping a healthy uterus. There is, indeed, nothing more unsatisfactory.

Yet I have no doubt there is endometritis; and, if it has any symptoms, they are very ill-defined, or unknown as yet. The disease is suspected by finding menorrhagia or a prolonged secretion of thin bloody fluid. A great writer says the fluid is glairy, but this is a mistake. The cervix is more or less patulous. If the cervix is dilated by tangle tent, the body of the uterus is found to be expanded, its cavity having three dimensions, or being globose, and its surface very soft, or feeling villous. Two cases with all these characters we have recently had in "Martha," and I would not consent to founding a reliable description of a disease on two cases. These cases we treated by ergot and painting the uterine cavity with tincture of iodine. If this dilatation and painting is thoroughly done, you may bring your patient into more danger and disease than resulted from the original malady. You must, therefore, be very careful and circumspect. Of course the local remedies can be applied without dilatation, in a somewhat hap-hazard fashion; for without it your diagnosis is imperfect.

To give you an idea of the rarity of the disease, or of anything like it, I may tell you what I did one winter. You know what a large number of cases come to the out-patient department, and how they are attended to by Dr. Godson. Well, I secured his special attention to finding for me cases of endometritis, that we might specially study them that winter. We got not one.

Endometritis with copious secretion of pus, or of thin, watery, or blood-tinted fluid, is not rare in connection with uterine fibroids; and this is perhaps partly explained by the liability of these tumours to all degrees or kinds of inflammation. I show you here a museum specimen of a uterine fibroid, in which the uterine cavity was dilated and filled with pus.

Then membranous dysmenorrhœa is generally supposed to be the result of inflammation of the menstrual membrane—menstrual endometritis. The mucous membrane gets hardened, blood is effused at the junction of its superficial and deep layer, and so the superficial layer is separated, and then it is thrown off in large flakes, or rarely even unbroken, and is discharged on the first or second day of the flow. The discharge of small soft thin flakes of the superficial layer is common in healthy menstruation. It is the discharge of the entire membrane (very rarely) or of large patches, as thick as a shilling or thereabouts, that constitutes this disease. The dysmenorrhœal pain acccompanying the discharge is not of the greatest, not such as is seen in a case of dysmenorrhœa spasmodica. You distinguish the disease from monthly abortion, the membrane in this case being much thicker and richer than the dysmenorrhœal membrane, and the disease being cured by celibacy. You will find it hard to do any good in a case of membranous dysmenorrhœa. I cannot tell you any treatment that is likely to even ameliorate the condition. Yet, of course, you regulate the general health, and you may try iodide of potass or corrosive sublimate. In the virgin, I meantime advise you to abstain from local treatment.

Chronic endometritis is described as sometimes ending in atrophy of the mucous membrane and complete arrest of function. The mucous membrane is said to be replaced by a thin layer of fibrous tissue, from which the gland tubes have disappeared, its surface covered not by cylindrical but by flattened or scaly epithelium.

Nothing has given such an impulse to this subject as the paper of Olshausen, published a few years ago, on what is called fungous or tuberous endometritis; and you may wonder why I have put off to the end of my lecture such an important disease of the mucous membrane of the cavity of the body of the uterus. The reason is that I do not regard it as an inflammatory disease—not an endometritis. You would not call a myxomatous polypus an inflammation. Neither would I so call this. It is a general myxomatous hypertrophy of the mucous membrane, and a similar condition is, I believe, not uncommon in the nose. It is not spontaneously separated and discharged. It is, in my experience, a rare disease. We have had one good case in "Martha," and I have seen lately two good cases in private practice.

The disease has no distinctive symptoms. There may be pelvic malaise; there may be anæmia from loss of blood, for generally there is profuse menorrhagia with more irregular and less severe metrorrhagic loss; or rarely a thin watery discharge may flow, frequently more or less blood-tinted. I have seen the disease only in married women, and it entails sterility.

When you examine, you find the uterus, including the cervix, bulky. The latter is pale and may be excoriated. The cervical canal is enlarged, and the swollen mucous membrane of the body I have, in one case, seen as a red mass hanging into or almost through it. This is very deceptive, and you are pretty sure to say to yourself, Oh, here is a clear case, a mucous polypus hanging in the cervix, a simple matter. You seize it with volsella, and it is so soft that you get no real hold. You seize it with forceps, and it is compressed and almost disappears between the blades. Now you will perhaps suspect the real nature of the case, retrospectively remarking that there was nothing like a pedicle to the red mass. Then you dilate the cervix by tangle tent; and, passing your finger through it, you feel the enlarged uterine cavity filled with soft tissue, uniform in surface, or hanging in looped up or curtain-like folds. Then, with a curette such as I show, you scrape out this myxomatous tissue, or you may with uterine forceps pull it off in masses. You may get away one or two teaspoonfuls of it; and its bulk is small now compared with its bulk *in situ*, for it is an œdematous tissue, and the distending fluid has run out. The removed masses are more or less hyaline and almost bloodless, or they may be firmer and distinctly blood-tinted.

This proceeding may cure the patient if the scraping has been complete, but the disease returns and returns, and you may have to scrape again and again. Besides scraping you may try caustics, such as nitric acid; and you may administer ergot to try to induce uterine retraction.

The masses removed by curette present, under the microscope, the characters of ordinary mucous membrane of the body of the uterus, little altered. The adenomatous malignant outgrowth from the endometrium is scarcely liable to be confused with this; it is much larger in mass, more solid in structure, continuous in increase, and has special histological characters.—*Medical Times and Gazette, Nov.* 29, 1884, *p.* 727.

123.—ON TWO CASES OF DOUBLE OÖPHORECTOMY.

Under the care of Dr. Rabagliati, at the Bradford Infirmary.

Case 1.—Sarah S——, aged twenty-six, married, a slight-built, delicate looking woman, was admitted during December, 1882, complaining of a constant pain, which at times became most excruciating, affecting the left iliac region. Prior to admission she had been under the care of several practitioners, and had been in hospital three times. The remedies had been many and varied; a variety of instruments had been worn, all of which increased rather than diminished the pain. Posterior hysterotomy and dilatation of the os had been tried, blisters, baths, and innumerable medicines, but all to no purpose; the patient gradually got worse, until lately life had become, to use her own expression, unbearable. The pain, which increased on deep pressure, commenced six years ago (six months after marriage) with what she says was an inflammation of the bowels. It was at first intermittent, being sometimes free for days together, but of late it had become constant. Menstruation began when she was seventeen years of age, and has continued at irregular intervals ever since. She has never had any children. The sound passed two inches within the cavity of the uterus, causing great pain; there was slight retroflexion.

After a consultation with Mr. Miall, Dr. Rabagliati decided upon removing the ovaries as a last resource. The serious nature of the operation, with its results, was plainly put before the patient, but she urgently pressed for the operation, preferring it with all its risks to the suffering she was undergoing. The operation was performed on Aug. 10th with strict antiseptic precautions. The ovaries, together with their appendages, were removed through an abdominal incision from three to four inches in length; silkworm gut was used to secure the pedicles. Both ovaries were found to be enlarged, cystic, and adherent to the surrounding parts. On section they appeared injected, but there was no sign of suppuration. The Fallopian tubes were greatly dilated.

The wound healed by first intention, and the patient made a good recovery. She has been seen at frequent intervals since the operation, and expresses herself as quite a new woman, the old pain having entirely disappeared.

Case 2.—Elizabeth L——, housewife, aged twenty-eight, was admitted on March 29th, 1884, complaining of severe pain in the right iliac region. The patient stated that menstruation commenced when she was sixteen years of age, and had continued at regular intervals ever since. The menstrual discharge was normal in quantity and appearance. She was married three years ago, and delivered of a female child eleven months later. The child was brought up by hand and is alive and healthy. The labour was tedious, lasting twenty-three hours after rupture of membranes. She made a good recovery, being up and attending to her household duties at the end of a fortnight. The catamenia appeared two months afterwards. She has since been regular. About three or four months after the child was born she began to be troubled with pain in the region of the right ovary; it was, at first, intermittent and slight in character, but gradually increased in severity; it became constant, and extended to the back and down the thigh of the affected side. Of late it had become almost unbearable. Her medical attendant, Mr. Miall, tried all the usual remedies, but without any relief.

After a consultation with Dr. Rabagliati, and at the patient's urgent request, it was decided to remove the ovaries, and for this purpose she was removed to the infirmary. Upon admission the pain was found to be located in the right iliac region, and was increased upon deep pressure. The uterus was normal in position and appearance, and the sound entered nearly two inches. The operation was performed under chloroform administered on a towel at 9 a.m. on April 9th. Strict antiseptic precautions were observed. The ovaries and their appendages were removed through a median abdominal incision three to four inches in length. Silkworm gut was used for the pedicle, as in the last case. The wound was closed by deep chromic catgut sutures, which included the peritoneum as well as the remainder of the structures forming the abdominal wall. Before the chromic sutures were tied, the cut edges of the peritoneum were brought together by fine catgut sutures. Some superficial ones were also used to bring the skin into more accurate apposition. The right ovary was found to be cystic, and the corresponding Fallopian tube somewhat constricted. The left ovary was also cystic, but the Fallopian tube appeared normal. During removal of the left ovary a large superficial cyst was ruptured.

There was slight sickness during and immediately after the operation, but none afterwards. For the first twenty-four hours the patient was allowed nothing but ice. On the second day a little milk diluted with water was given. On the fourth day there was slight appearance of catamenia, which lasted three days. The case ran a most favourable course; the temperature was never higher than 100·8° ; the wound healed by first intention, and was quite sound on the ninth day. The patient was discharged cured at the end of the month. The patient has been seen at frequent intervals, and expresses herself as quite relieved. The old pain has entirely disappeared.—*Lancet, Dec.* 20, 1884, *p.* 1091.

124.—ON REMOTE PUERPERAL HEMORRHAGE.

By T. Gaillard Thomas, M.D., New York.

I have met with two cases which have suggested to my mind the considerations which form the basis of what I am about to say. I refer to a form of hemorrhage which comes on three weeks or a month after labor, after the physician has ceased making his visits. Some years ago the late Dr. M'Clintock, of Dublin, wrote a paper on this subject, and called it "remote or delayed puerperal hemorrhage;" and Dr. Mundé has recently written an article bearing upon the same point, published in the American Journal of Obstetrics. I have seen a good many of these cases, and the history of one which I will relate illustrates the experience that I have had with most of them.

In such a case the uterus may have contracted after labour, and everything have gone on properly until the ninth day, when the physician has ceased to make his daily visits, but from that time the woman begins to lose blood steadily. If she makes a little unusual effort, or if anything occurs in the family to cause considerable mental excitement, an exceedingly dangerous hemorrhage may take place, which will require to be checked with the tampon. If sudden and profuse hemorrhage does not occur, demanding the services of a physician immediately, a steady loss of blood in moderate amount may continue for a week or ten days, until the woman becomes very much exhausted.

The particular case of which I have had the history in mind in the foregoing remarks was that of a lady to whom I was called in consultation by a German physician of considerable experience. About the end of the seventh month of gestation, the veins leading from each labium majus became greatly enlarged, and the parts presented the appearance of a mass of earthworms of the size of one's fist. I had seen the condition in so marked a degree but once or twice before.

On the ninth day after delivery hemorrhage occurred, and she sent for her physician, who used all the ordinary means, including ergot, tannic acid, dilute sulphuric acid, &c., for stopping it, but without avail. The tampon, however, was not resorted to. About three weeks after her delivery the patient was seized with very profuse and violent hemorrhage, which reduced her very much. It came on after she had got out of bed. When her physician reached her the hemorrhage had ceased. Each time it had begun with the passage of a large blood-clot. On this occasion I was consulted, and I visited the patient three days later—the next time that hemorrhage occurred. I took with me a nurse, and instruments for dilating the uterine canal and for removing the remains of membranes. Her physician, however, felt very positive that none of the membranes had been left in the uterus, and stated that he had examined the placenta very carefully, and that there was no interruption of its continuity whatever. But I felt equally positive that some of the placenta yet remained in the uterus.

The patient was etherized, the uterine canal was dilated, the curette was passed, and three pieces of placenta were removed, each as large as the last phalanx of one's index-finger. Very little hemorrhage was excited by the operation, and I felt that in removing the pieces of placenta I had removed the cause of hemorrhage.

With regard to the statement, so often made, that the placenta has been examined carefully and found entire, it usually amounts to nothing. In the first place, we know that the physician commonly looks at the after-birth hastily and in a careless manner. Besides, I believe that little pieces may be broken off and remain behind, which no man could recognize from an examination of the placenta, though he examined it with the utmost care. As in this case, so in all others of delayed puerperal hemorrhage that I have met with, it has been due to retained placenta or membranes. Dr.

M'Clintock mentioned a case in his practice which, I believe, proved fatal. I have met with some which very nearly proved fatal, and doubtless others have encountered similar cases.—*New York Medical Journal, Sept.* 6, 1884, *p.* 253.

125.—ON HYDRORRHŒA GRAVIDARUM (ENDOMETRITIS CATARRHALIS DECIDUALIS).

By John A. Macdougall, M.D., F.R.C.S., Carlisle.

Case.—J. B., æt. 34, vi.-para, when first seen reckoned herself in the fifth month of pregnancy. She had been for some time in indifferent health, and was much alarmed on account of a very free discharge of fluid, at times markedly tinged with blood, which flowed from the vagina. This occurred, at first, suddenly and profusely, and had been in existence for some days previous to my examination. She also made mention of recurrent abdominal pain, labour-like in character, and of a certain amount of tenderness over the lower belly. Palpation verified the existence of the tenderness, but it did not disclose any extraordinary enlargement of the uterus, or any distinct difference in its normal condition as regarded its tension. Tactile examination P.V. revealed a somewhat enlarged and œdematous cervix, with no sign of uterine dilatation, but it gave unmistakable evidence that the discharge she complained of was intra-uterine in its origin.

Her condition as a whole puzzled me, for I considered (although I have other knowledge now) that had labour been about to supervene on an ordinary accidental rupture of the membranes it would either have occurred at an earlier period, or there would probably have been at the time of examination some existing evidence indicative of its advent.

Believing, as I did, that the membrane had ruptured, and that the coloured character of the fluid arose from some partial detachment of the placenta, she was advised to rest, opium was given her combined with some astringent, and she was directed to send should labour pains make their appearance. Days elapsed, but I heard nothing of her, and when I called again I was not a little astonished to find her discharging her household duties without complaint of pain, but able to demonstrate irrefragably that the discharge still continued. And so matters remained until gastric symptoms made their appearance, deepening notably the vital force of a not very vigorous woman. Added to this, the hemorrhagic character of the discharge increased, and a steady rise in her evening temperature pointed to the fact that she was slowly being sapped. Still I waited, hoping the condition might improve, until with the advent of the seventh month her state was so serious—she was so feeble and so exsanguine—that interference was imperatively demanded. Labour was induced by the use of a sponge tent, followed by the introduction for a time of a gum elastic catheter, and was, after artificial rupture of the membranes, safely completely in about 36 hours. The child was barely alive; it was miserably developed, and it speedily perished. My examination of the membranes and the placenta was carefully made, for in spite of the difficulty I had in explaining such a loss of fluid by a limited separation of the placenta, I looked to the condition of that organ to throw light upon the case. In this I was disappointed, for although some small colourless clots were embedded in its substance, its margins, and indeed its whole uterine surface, were lined with a delicate membranous structure, betokening, I thought, a more than ordinary vital connexion with the uterus. Nor did the condition of the membranes help me, for there was but *one* aperture in them—that through which the child passed—thus rendering impossible the other explanation that had occurred to me, viz., that through some opening in them leakage had been steadily going on. The woman made a good though tedious recovery, unmarked in any way save that for some time the lochial discharge was very profuse and watery in character.

The narration of these cases brings into sufficient prominence the leading symptoms of the disease, and yet some of them are so important that they admit of more detailed consideration. And this has origin in the fact that certain of them may entirely mislead the practitioner. In two, at least, of the cases which have come under my personal observation, I believed that miscarriage pure and simple was threatened, and it was only as days ran and brought with them not only continuance of the discharge, but an entire absence of uterine action, that my mistake became apparent, Dr. Macdonald's case, too, illustrates this well, for there can be no reasonable doubt that what his friend mistook for blood was really coloured fluid from the hydroperion.

Careful examination of the character of the discharge will in a certain number of cases guide us aright, for I have been able once or twice by such examination, and aided by the history of the case, to determine the existing condition of matters. The period to which the pregnancy has reached may also help us. Abortion after the fourth month, without any adequate exciting cause, is a comparatively rare event; and when in the absence of this, and between the fourth and sixth month, a sudden flow of colourless or bloodstained fluid takes place from the vagina, unassociated with any evidence of uterine dilatation or action, we may form a well-grounded suspicion that hydrorrhœa is the condition we have to deal with. But this is not the only difficulty which may arise in the diagnosis of such a case. In one case, where I had the opinion of a very able obstetrician, the weight of evidence in his reckoning was against pregnancy, and in favour of a rapidly growing soft fibroma of the uterus. Nor is this all, for Matthews Duncan has demonstrated the fact that labour may be long delayed after the discharge of the liquor amnii, and that during this period of delay frequent discharge of freshly-secreted fluid may take place. Bar the evidence of blood in the discharge, and the fluid in all cases of hydrorrhœa is not bloody, and the noticeable feature that the uterus does not become shrunken and contracted, the two conditions are not very dissimilar.

But, given a correct diagnosis, what are we to say as to treatment? In the very large majority of cases, beyond rest, the maintenance so far as possible of the recumbent position, the avoidance of all such conditions as might lead to pelvic congestion, and such measures as are best calculated to maintain a high standard of health, we are well-nigh powerless. True, as a general rule these are all-sufficient, but to this rule, as to all others, there are exceptions. And in prognosis I would be much guided by the period at which the discharge first appears, and by its character. Should it come in early days and be truly hemorrhagic in constitution, then I would dread that either naturally or artificially labour would be prematurely terminated. In two cases the very best means were employed to avert disaster, for the patients were kept in bed and at absolute rest, and yet in both cases there came a time when, possibly from some change in the diseased decidual lining of the uterus, labour had its origin. In some instances, however, the accoucheur must himself take action, for I reckoned that I placed in very considerable jeopardy the life of my first patient by following too implicitly the doctrine of, in such cases, leaving well alone.

With the admission of the fact that treatment has little influence upon the disease, there arises the important question as to what are the conditions which underlie it. The old theory was one which very naturally occurs to the practitioner when considering such a case as that first narrated—that of an aperture in the membranes through which the amniotic fluid steadily and continuously drains. That this is, however, a mistake every case here recorded proves; for in all it was noted that the membranes were entire on the accession of labour. Moreover, in two or three I made a very careful examination of these structures, and in no instance did I find that more than one opening existed in them—that through which the child had passed. The fluid which escapes is not amniotic in the true sense of the word, it is the outpouring of gland structures in the decidua which have undergone a morbid increase in number and in size. To Hegar I am indebted for a minute knowledge of these anatomical changes. In the course of a very valuable paper by him on Hydrorrhœa Gravidarum in the *Monatschrift für Geburtskunde und Frauenkrankheiten* for 1863, he thus writes :—"The anatomical basis is a hypertrophic development of the uterine mucous membrane, accompanied by hyperæmia and abundance of vessels which extends itself not alone in the interstitial tissue, but also, according to my examinations, to the glandular bodies. There is present a lively process of new cell formation, and the separate tissue parts and tissue elements possess an unusual strength and cultivation. Particularly did I find the glands in such number and size as I have indeed rarely seen them in the first months of pregnancy. One remarked therewith much less of the degenerating metamorphosis of the decidua than is otherwise the case at the eighth month. May we now describe this process as a chronic inflammation, or may we prefer to speak of it as simply a hypertrophic condition of the uterine mucous membrane? Assuredly is it that the principal symptom of the hydrorrhœa—the increased secretion of the mucosa—finds a perfectly adequate explanation in the anatomical discoveries. The secretion is furnished pre-eminently by the glands."

As regards the nature of the disease I believe it to be an endometritis catarrhalis decidualis. The symptoms and the anatomical conditions which underlie it lead to this belief.

Endometritis in connexion with pregnancy is well known. One finds, I fancy, its most pronounced development in certain cases of miscarriage occurring in the course of typhoid fever, in one of which I know the decidua was so hypertrophied and developed that it was, on intra-uterine examination, mistaken for the placenta, a structure which on subsequent investigation was found to have been discharged intact. Hydrorrhœa, and therefore the condition of which it is a symptom, is said not to occur until after the third month, and I may be wrong in reckoning that a hypertrophic state of the decidua was in existence, in the case of this lady, before delivery took place. My difficulty, however, lies in explaining on any other hypothesis the cause of the profuse hemorrhages, the undoubtedly too big cavity of the uterus and the apoplectic condition of the membranes. The size of the uterine cavity was a striking feature in the case, and it occurred to me that it had arisen either from the retention from time to time in its lower segment of bloody fluid from the hydroperion, or that, may be, the condition of endometritis, which I presume was in existence, had brought about that peculiar globose formation of the uterus which is from time to time noted in connexion with this disease.

That the profuse lochial discharge points in a similar direction I am inclined to believe; and difficult as it is to explain why thirty-six hours should have elapsed after the uterus was cleared before the watery fluid made its appearance, I venture to guess that the observation of Hegar as to the fact that in abortion the mucous membrane of the uterus separates itself at *different* depths may throw light upon it. In view of this observation, it is possible that it was only after somewhat of that natural process of necrosis which must ever follow labour that the mouths of the enlarged decidual glands were free enough to pour out their increased secretion. Be this as it may, the strongest teaching of the case in my reckoning lies in the knowledge of the possibility that even within the first three months of pregnancy a free discharge of bloody fluid need not of necessity indicate threatened miscarriage; it may point to the existence of an endometritis catarrhalis decidualis.—*Edinburgh Med. Journal, Feb.* 1885, *p.* 691.

[Seven cases in all of this rare condition, mostly occurring in the practice of the author are published in the paper, but the one here reproduced will suffice as a type of the series.]

126.—CASE OF TRANSFUSION OF BLOOD FOR PUERPERAL HEMORRHAGE, WITH A MODIFIED APPARATUS.

By Alfred Lewis Galabin, M.A., M.D., F.R.C.P.Lond.,
Obstetric Physician to Guy's Hospital, London.

In the following case I used a slight modification of the second method of transfusion, recommended by Prof. Schäfer, with a successful result, although the patient appeared to be in fully as desperate a condition as in a case I previously recorded where injection of defibrinated blood failed to save life.

Ellen C——, æt. 41, was pregnant for the twelfth time. On October 20th, 1882, when pregnant about six months, she had severe hemorrhage, and two handfuls of clot were passed. The bleeding came on quite suddenly, and the patient became much blanched. Placenta prævia was diagnosed. She was kept at rest, and treated with opium. On Nov. 3rd, at 9 a.m., the hemorrhage came on again. The os was found somewhat dilated, and the placenta presenting. The vagina was plugged until a Barnes' bag could be introduced. As soon as the os was dilated enough, version was performed by the Resident Obstetric Assistant, and a still-born child delivered. No fœtal heart could be heard before the performance of version. There was no hemorrhage from the time of the insertion of the Barnes' bag until delivery, and no undue hemorrhage afterwards. The patient remained excessively blanched, and in a state of semi-syncope. Subcutaneous injections of brandy and ether were given. The pulse could be just felt, rate 128. She took milk, eggs, and brandy, and did not vomit.

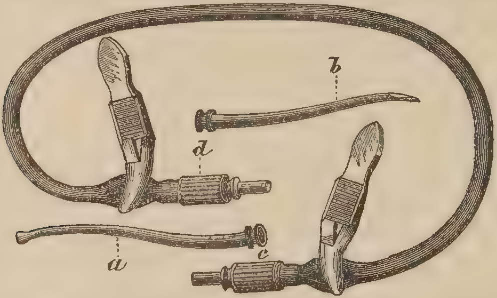
About 5 p.m. I was summoned to consider the question of transfusion, as she had become pulseless, very restless, and with cold sweat on her face. Ether injections were again given, and the legs were bandaged with Esmarch's elastic bandages. The pulse then became again perceptible, and the restlessness disappeared. Transfusion was, therefore, deferred. At 8 p.m., however, the condition had become much worse. Restlessness had returned, no pulse could be felt, and respiration was sighing and irregular, pallor extreme.

Transfusion was now decided on. The husband consented to be the donor, and went through the operation with great steadiness.

The apparatus used was simply a piece of elastic tubing twelve inches long, having at its extremities the receiving and delivery cannulæ of an Aveling's syringe, but no bulb or pumping apparatus. The cannula was first inserted into the patient's vein, then the donor's vein was exposed, opened, and the receiving cannula inserted into that. As soon as blood flowed from the end of the tube, its metal terminal was inserted into the cannula already in the patient's vein. The tube was left connected for about five minutes. At the end of that time the patient was still pulseless, and no marked change was observed in the donor's pulse. The tube was, therefore, taken out from the delivery cannula, and it was found that the flow had been stopped by clot near the end of the tube. The tube was then separated and freed from clot without much difficulty, by running the oiled finger and thumb down the outside of it in the manner previously described. A finger was meanwhile placed upon the receiving cannula to stop the flow of blood. The tube with delivery cannula was then again joined to the receiving cannula, and, as soon as blood flowed from the delivery cannula, this was again inserted into the vein. After a few minutes, the flow of bloodin the receiver's vein appeared to be again arrested. The tube was therefore a second time cleared of a clot in the same way as before, and again connected. The flow eventually became stopped for the third time. There was no perceptible improvement in the patient, but as the donor's pulse had become rather rapid no attempt was made to renew the flow.

I completed the operation under the impression that little good had been effected, and that the patient would certainly die. From that time, however, she improved steadily though very slowly. No food was given until 3 a.m. on account of the vomiting, but from that time the vomiting ceased and she was able to take small quantities. After 5 a.m. the pulse rapidly improved. She remained excessively blanched and weak for many weeks. On Nov. 15th phlegmasia dolens appeared in the left leg, and on the 28th in the right. After a long illness she completely recovered.

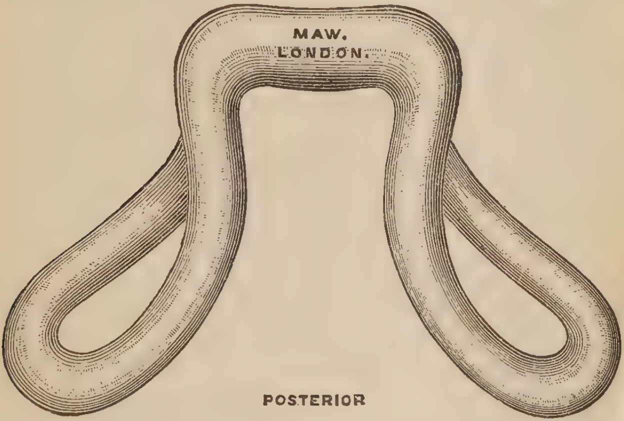
With this apparatus the mode of procedure should be as follows. Place the transfusion tube, including terminals (see Fig.) and cannulæ, in a hot solution of common salt or carbonate of soda (gr. lx ad Oj). When the tube is full and all air removed from it, place a spring-clip on it at each end close to the terminal. Tie tapes round the arm of the receiver, first above and then below the vein which is to be opened. Prepare the vein by exposing a portion of it and passing a probe underneath it. Then tie tapes round the arm of the donor, first above and then below the point where the vein is to be opened. Expose the vein and pass a probe underneath it. Now let the donor sit by the bedside and place his arm close to that of the patient. Take the delivery cannula (*b*) out of the saline solution, open the receiver's vein by a snip with sharp-pointed scissors, and see that the cannula slips readily into it. Removing the cannula, pass a small director into the vein that the opening may not be lost, and remove the tape above the opening. Now take the transfusion-tube with both cannulæ affixed, open the donor's vein by a snip with scissors, and slip the receiving cannula (*a*) into it, passing it gently on so far that by its conical shape it fills the vein, or the opening in the vein, and does not allow blood to escape by the side. Let an assistant hold the cannula in place, remove the lower tape from the donor's arm, and remove the spring clips, keeping the delivery cannula slightly raised above the donor's vein. As soon as blood begins to flow from the delivery cannula, slip the cannula into the receiver's vein and hold it there, having passed it in far enough to prevent escape of blood by the side, as in the case of the receiving cannula. The flow will be aided if the receiver's arm is raised on a pillow slightly above the level of the shoulder. With this method the quantity of blood transfused cannot be measured. We must judge when to conclude the operation, partly by the time of the flow, which should not be less than about five minutes, and partly by the effect on the pulses of the donor and receiver. When the cannulæ are withdrawn, the remaining tapes are removed, and the veins closed by a pad and bandage in the usual way.—*Guy's Hospital Reports*, 1884, *p.* 265.



127.—ON A NEW FORM OF VAGINAL PESSARY.

By J. Sinclair Coghill, M.D., F.R.C.S., Ventnor.

A case of retroversion of the uterus, presenting conditions of unusual difficulty, first suggested the idea of the instrument here delineated. It is on the plan of the familiar trestle used by builders for supporting stages or platforms, and is made of soft caoutchouc enclosing a steel spring-wire frame. The pessary consists of a transverse bar superiorly, and lateral fenestrated supports or wings. These latter are inclined outwards from the points of their attachment to the transverse bar, and also follow a curve downwards and forwards, corresponding as nearly as may be to that of the vagina. The wings are also everted anteriorly, not only to accommodate the distension of the bladder, but to prevent the lateral rotation of the instrument. The slight concavity of the upper surface of the bar seems to give more fixed support in cases where there is great uterine mobility, or greater than usual weight of uterus, but it may readily be bent so as to become convex if need be. The bar is intended to be placed in the vaginal cul-de-sac (*fornix*), either behind or before the cervix uteri, according to the nature of the displacement, while the wings rest on each side of the pelvic floor.



This pessary is very easily introduced, on account of its comparatively small size and the compressibility of the wings. The free curved extremities of the latter are approximated closely between the forefinger and thumb of the right hand, and the bar is passed through the vulva with its long axis antero-posteriorly ; then a quarter of a turn, with gentle sustained pressure, brings the wings with their curve forwards within the vagina, and, the hold being relaxed, they separate, and their inferior curves at once adapt themselves to and rest upon each side of the floor of the pelvis. It is only then necessary to pass the forefinger up between the wings that adjust the bar behind or in front of the cervix, as desired. I have found that a pessary of this shape will give more efficient support than a Hodge's or Albert Smith's pessary quite two-fifths longer in the vertical axis. It is necessary to bear this in mind in the selection of the necessary size. In very many cases this question of mere size is a most important consideration.

The action of this trestle pessary is quite simple, and readily enough understood. Like every other form of vaginal pessary, it can only influence the position of the uterus indirectly, through its ligamentous connections. The uterus has, of necessity, a considerable range of physiological displacement; and, indeed, so long as its utero-sacral attachments or broad ligaments do not permit a material displacement downwards, an amount of anteversion or of retroversion, quite pathological strictly speaking, may be borne without giving rise to any distressing symptoms. The transverse bar of the trestle pessary, when placed either in the posterior or in the anterior vaginal fornix, gives a point of support to the cervix, at the point of its junction to the body of the uterus, and at the same time raises it with its broad ligaments, restoring the normal tension of the latter, the loss of which is so important a factor in determining the lesion. The restored equilibrium is maintained by the lower segments of the wings resting on the sides of the pelvic floor, above the tuberosities of the ischia, where there are no sensitive or mobile viscera. The bladder and rectum are thus enabled to distend and contract in the discharge of their functions, without impediment on their part, or disturbance of the pessary.

I have had the opportunity of employing this pessary in several cases, both of retroversion and of anteversion, and also in a case of prolapsus with great protrusion of the bladder and posterior wall of the vagina of very great difficulty, and with results so satisfactory, that I am sure it is an instrument that will be found useful in a large number of cases in which the weight of the uterus, extreme relaxation of its ligamentous connections, deficiency of perineum, or irritation of the bladder or other surfaces, necessitate a more fixed support than can be afforded by other forms of pessary acting more or less on the lever principle, with a movable fulcrum. Indeed, I venture to think that it may be used with advantage, even in a much wider range of cases than those I have indicated.—*British Medical Journal, Jan.* 3, 1885, *p.* 15.

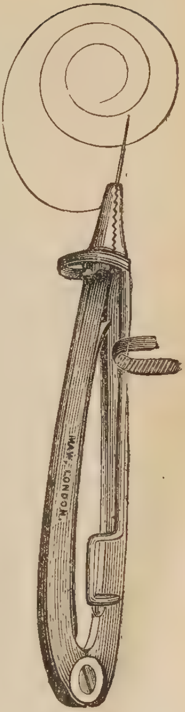
ADDENDA.

128.—A NEW NEEDLE-HOLDER.

By J. Ward Cousins, M.D.,Lond., F.R.C.S., Surgeon to the Royal Portsmouth Hospital.

The special feature of the instrument consists in the novel device by which the opening, shutting, and fixing movements are accomplished. The blades are surrounded by a triangular collar with rounded angles, fixed just below their points, and under the control of the thumb by means of a lever. When the holder is grasped by the hand, this collar can be easily rotated. In its long axis the blades are released by a recoil spring, but by a slight movement they are securely fixed, and the points are brought into close contact with each other.

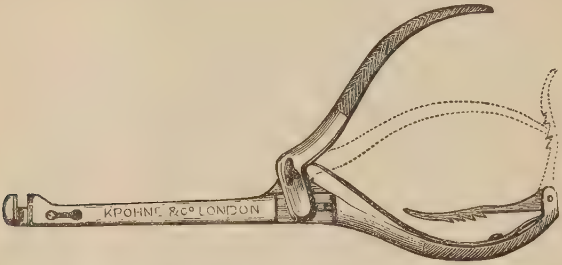
The holder is represented in the engraving carrying a surgical needle and thread. It is adapted for the introduction of every kind of needle, and it is not liable to get out of order. The pressure at the points can be accurately regulated by the hand of the surgeon, and thus the risk of breaking needles is greatly diminished. The long lever attached to the thumb-plate is intended to facilitate the insertion of deep stitches in plastic operations. The rotatory action of the instrument is the chief element of novelty, and this marks the difference between it and the holders now in general use. By slight movements of the thumb on the lever, complete control is obtained over the needle. Sir Spencer Wells' short scissor-shaped holder is suitable only for the introduction of large needles, and the ordinary spring instrument gives no variation of pressure at the points, except the slender accommodation obtained by covering them with soft metal. It is made by Messrs. Maw, Son and Thompson, Aldersgate Street, E.C.—*Lancet, Nov.* 29, 1884, *p.* 951.



129.—HAGEDORN'S SURGICAL NEEDLES AND HOLDER.

Messrs. Krohne and Sesseman, of Duke Street, Manchester Square, W., have submitted to us some excellent surgical needles and a very convenient needle-holder, which have been devised by Dr. Hagedorn, of Magdeburg.

The needles are semicircular in shape, the section of the stem being an oblong parallelogram of the same thickness throughout its length. The point has a single cutting edge on its convex surface. The advantages which these needles have over the curved needles in general use are that the puncture they make is a fine slit at right angles with the edge of the wound to be united, and therefore when the suture is tightened the edges of the puncture are approximated, not made to gape; the puncture of the needle is also at right angles to the surface of the wound, and the suture approximates the whole thickness of the parts through which it is passed with equal tension; and the needles are stronger and much less liable to break when held in a holder than those in common use.

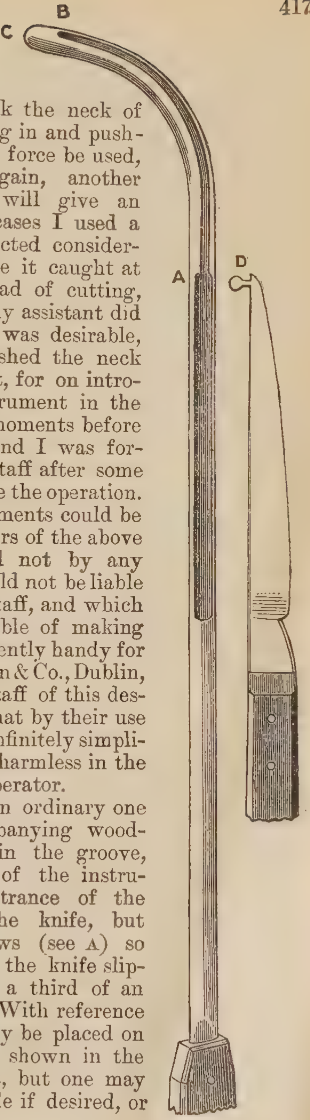


The needle-holder is very simple in construction; it grasps the flat surfaces of the needle, and can seize and hold the point as securely as any part of the stem. The jaws are closed with a lever handle, which can be fixed by a ratchet. For special purposes these holders are made of different lengths and shapes, but any one who uses them will soon be convinced of their great convenience and merit.—*Lancet, Jan.* 24, 1885, *p.* 62.

130.—A NEW KNIFE AND STAFF FOR SAFE PERFORMANCE OF LITHOTOMY.

By Surgeon H. W. Boyd, F.R.C.S., Bombay Med. Department.

Having had a large experience of stone cases in India, and seen in some instances the deplorable results and the irreparable injury following on the accidental slipping of the knife from the groove, or the protruding of its point beyond the end of the staff during the operation of lithotomy, I was led to consider whether a knife might not be devised which would avoid all danger from these causes. I am sure most practical lithotomists will agree with me that the only real danger in the extraction of a stone by lithotomy (outside the large size of the calculus), in an otherwise healthy subject, depends upon the direction and extent of the deep incision. It can be readily understood how easily, owing to the inexperience of an operator or his timidity, or the movement of a patient not thoroughly under the influence of chloroform, or from other causes, the knife may leave the shallow groove of an ordinary staff, and what dire results may follow on the driving of a sharp-pointed bistoury into such an important region: wound of the rectum, of the prostate, of the pudic artery, and very frequently of the bladder itself resulting. Nor is danger confined to the use of a



a sharp-pointed knife, for it is found in practice that the probe-pointed one sometimes fails to nick the neck of the bladder, its blunt point hitching in and pushing it up before it, and, if much force be used, tearing the urethra across. Again, another accident may occur, of which I will give an illustration. In one of my first cases I used a probe-pointed knife, and as it projected considerably above the edges of the groove it caught at the neck of the bladder, and, instead of cutting, pushed this viscus up before it. My assistant did not hold the staff as steadily as was desirable, and I found that I had actually pushed the neck of the bladder over the end of it, for on introducing my finger I found the instrument in the recto-vesical space. It was some moments before I detected the state of the case, and I was fortunate enough to reintroduce the staff after some tedious manipulation, and to complete the operation.

I have often thought that instruments could be made such as would avoid all dangers of the above nature: viz., a knife which could not by any chance leave the groove, which would not be liable to project beyond the end of the staff, and which at the same time would be capable of making the necessary incisions and be sufficiently handy for all practical purposes. Messrs. Fannin & Co., Dublin, have just completed a knife and staff of this description for me. I am confident that by their use the operation of lithotomy will be infinitely simplified, and that they will be found harmless in the hands of the most inexperienced operator.

The staff is much the same as an ordinary one (as can be seen from the accompanying woodcut), the only difference being in the groove, which in the perineal portion of the instrument is wide, to admit the entrance of the button (D) on the back of the knife, but towards the curved part it narrows (see A) so as to grasp this button and prevent the knife slipping. The groove (B) ends about a third of an inch from the extreme point (C). With reference to the position of this groove, it may be placed on any aspect of the staff. The one shown in the woodcut is on the posterior aspect, but one may be made with a groove on the side if desired, or commencing posteriorly, and, taking a semi-spiral direction, ending laterally; and I think this form of staff would be most suitable, as the knife in passing along lateralises the incision without demanding any attention from the operator. Lastly, by approximating the edges of the groove of Buchanan's angular staff, and leaving the angle open to receive the button, an excellent arrangement may be made.

With reference to the knife, it does not much differ from a finger knife in shape, only it has projecting from the back of the blade, and about a line from its point, a small button attached to the blade by a norrow neck. This button can enter any part of the perineal portion of the staff, but as it passes on towards the narrow portion of the groove it engages in the staff and ultimately stops a third of an inch from its point, where the groove ceases. In the narrow portion of the groove the knife can be lateralised to an angle of 45°, so that it admits of plenty of play and movement during the operation. To perform this the external wound may be made by either transfixion or cutting. The perineal portion of the instrument being thus exposed, the button is placed in the groove and the knife pushed on into the bladder. If the existence of only a small stone be suspected, the back of the knife may be kept close to the staff, when only a moderate incision will be the result; but if a deeper incision be required, as in cases where a large stone has to be extracted, then by depressing the instrument while pushing it into the bladder any sized incision may be made in the perineum; whereas, owing to the top of the knife being necessarily held in the groove of the staff, only a limited incision in the prostate and neck of the bladder can result. Thus there will be no danger of cutting through the capsule of the prostate, or too deeply through the neck of the bladder, accidents which I am sure frequently occur under the present system of making an incision while withdrawing the knife.

The advantages I claim for this knife and staff are—first, that it simplifies the operation of lithotomy, whether it be the median or the lateral method, and that in the hands of the most inexperienced the operation can be performed with expedition; secondly, that it obviates all tendency on the part of the knife to slip, thereby preventing some of the most frequent causes of death following on this operation; and, thirdly, that the protrusion of the knife beyond the point of the staff with consequent puncture of the posterior part of the bladder is rendered impossible. In conclusion, I trust these instruments will be found valuable, especially in countries where calculus is prevalent, and where skilled medical aid may not be near at hand, where often the operation has to be performed to save life by men to whom the operation is new, or whose timidity may be a bar to its performance.—*Lancet, Nov.* 15, p. 868.

[The woodcut was received too late for the insertion of this article in its proper place in the volume.—Ed.]

INDEX TO VOL. XCI.

PAGE.
Abdominal and other tumours, Mr. Jessett on the diagnosis of 281
——— excreta, Dr. Russell on the disinfection of 19
——— section, Mr. Lawson Tait on removal of uterine appendages by 91
Abscess, psoas, with spiral caries, Mr. Treves on its treatment 227
Abscesses, Mr. Jessett on aspiration in the diagnosis of deeply-seated ... 61
——— cold, Prof. Verneuil on injections of ether and iodoform in ... 61
Acne and rosacea, Dr. Shoemaker on bismuth oleate in 71
—— rosacea, Dr. Robinson on its treatment 312
——— —— Dr. Stowers on multiple punctiform scarification in... ... 311
Acute nephritis, Dr. Goodhart on 188
——— pemphigus, Dr. Duckworth on a fatal case of 62
——— rheumatism, Dr. Quinlan on the salicylates in 106
——— suppurative osteomyelitis, Mr Jones on the causes and symptoms of 229
——— yellow atrophy of the liver, Dr. Greves on 34
Adenoid disease of the naso-pharynx, Dr. Dalby on 364
Adhesions of the iris to the cornea, Mr. Walker on the treatment of ... 345
Albumen, Dr. Roberts's suggested modification of nitric acid test 46
Alcoholic injections in uterine hemorrhage, Dr. Cameron on 94
——— paralysis, Prof. Charcot on 128
——— spinal paralysis, Dr. Broadbent on 130
Allbutt, Dr. T. C., on the causes and treatment of scrofulous neck 116, 120
——— on the treatment of migraine 132
Allen, D. W., on skin grafts from the frog 326
Amblyopia from vapour of bisulphide of carbon and sulphur, Mr. Nettleship 74
Amputation high up for senile gangrene, Prof. Hutchinson on 212
——— stumps, Dr. Whitson on the drainage and dressing of ... 218
Anæsthetic, Dr. Murrell on cocaine as a local 136
——— for genital mucous membrane, Dr. Frankel on cocaine as an ... 47
——— in hemorrhoids, Mr. Edwards on cocaine as a local 286
——— in ophthalmic practice, Dr. Koller on cocaine as an 361
——— leprosy of the leg, Mr. Neve on nerve stretching in 21
Aneurism, thoracic, Dr. Finlayson on laryngeal paralysis & inequality of pupils in 141
Animals dying of splenic fever as human food, Mr. McGill on danger from 16
Anthrax, Dr. Jarnovsky on hypodermic injection of phenol in 19
Antipyretic, Dr. Aiken on lemon decoction as an... 15
——— Dr. Dreschfeld on the effects of salicylate of sodium... ... 15
——— action of salicin and the salicylates, Dr. Quinlan on 106
——— treatment of fevers, Prof. Nothnagel on 104
Antipyrin, Dr. Barrs on a case of death from use of 13
——— Dr. Edwards on the effects of... 13
Antiseptic, Dr. Richardson on the use of rhigolene as an 20
——— M. Vigier on sulpho-carbol as an 21
——— dressings, Prof. Billroth on wood wool and corrosive sublimate for 60
——— irrigation treatment of purulent opthalmia, Mr. Browne on ... 349
——— surgery, Sir Joseph Lister on 201
Antiseptics, Dr. Klein on their influence on micro-organisms 101
Appendix vermiformis, Dr. Fenwick on perforation of the 176
Arteries, Mr. Symonds on partial subcutaneous laceration of 254
Articular disease, Mr. Barwell on chronic 241
Artificial anus treated by resection of small intestine, Mr. Makins on ... 35
——— leg, Mr. Barwell on a cheap form of 246
Aspiration in diagnosis of pleuritic effusions, Mr. Jessett on 32
——— in distension of the bladder, Mr. Jessett on 48
——— in strangulated hernia, Mr. Jessett on 41
——— in the treatment of buboes, Mr. Weston on 72
Aspirator, Dr. Ward Cousins' new 260
——— Mr. Jessett on its use in diagnosis of deeply-seated abscesses ... 61
——— Mr. Jessett on its use in liver affections 42
——— Mr. Jessett on its use in diagnosing abdominal tumours ... 281
Asthma, Dr. Thorowgood on remedies for 150
——— from hay and plant pollen, Dr. Sajous on the treatment of ... 153
Atropine, Mr. Juler on its use in diagnosing errors of refraction 351

PAGE.
Bacillus of tubercle, Mr. Watson Cheyne on the 158
Barrs, Dr., on a case of death after use of antipyrin 13
Barwell, Mr. R., on a cheap form of artificial leg 246
——— ——— on chronic articular disease 241
Battams, Mr. J. S., on clearing tracheotomy tubes 266
Benson, Mr. A. H., on the effects of jequirity on the conjunctiva 80
Berry, Mr. J., on treating cancerous œsophageal stricture by catheters, &c. 271
Bicarbonate of soda in tonsillitis, Dr. Partagas on 32
Bladder, "Beaver's" method of washing out 52
——— Mr. Buckston Browne's simple method of washing out 291
——— Mr. Jessett on aspiration in distension of 48
——— Sir H. Thompson's case of supra-pubic operation for stone in ... 288
——— Surgeon Boyd's new lithotomy knife and staff for stone in ... 416
Boracic acid oil as a dressing for burns, Mr. Bond on 63
Boroglyceride, Dr. Shoemaker on its use in ringworm 70
Bowels, Mr. Halpin on hazeline in hemorrhage from the 182
Boyd, Surgeon H. W., his new knife and staff for lithotomy 416
Braithwaite, Dr. J., his cases of gastrotomy in extra-uterine gestation ... 373
Broadbent, Dr. W. H., on a form of alcoholic spinal paralysis 130
Bright's disease, Dr. Howard on some varieties of dyspnœa in 194
Bronchitis, Dr. West on the inefficacy of pilocarpin in 28
——— ——— and heart disease, Dr. Wilks on diagnostic differences between 147
Bronchocele, Dr. Mackenzie on the treatment of 17
Browne, Mr. E. A., on treating purulent ophthalmia by antiseptic irrigation 349
Browne, Mr. G. B., his simple method of washing out the bladder ... 291
Browne, Dr. J. W., on the treatment of burns and scalds... 324
Buboes, Mr. Weston on their treatment by aspiration 72
Burge, Dr. J. H. H., on an apparatus for fracture of the patella 248
Burns, Dr. Browne on the treatment of 324
——— Dr. Richardson on the use of rhigolene for 20
——— Dr. Stewart on the use of næpthaline in 72
——— Mr. Bond on boracic acid oil as a dressing for 63

Cæcum, Dr. Mahomed on removal of concretions in the 39
Caffeine, Dr. Thorowgood on its use in asthma 151
——— as a cardiac tonic, Mr. Hardy on the use of 26
Calculus, vesical, in the female, Surg.-Major Beaumont's operation for ... 51
Cancer, Editor of Lancet on successful removal of lower rectum for ... 283
Cancerous stricture of æsophagus treated by catheters, &c. 271
Cardiac diseases, M. Labbeé on the use of convallaria majalis in... ... 26
——— tonic, Mr. Hardy on caffeine as a 26
Cascara sagrada in constipation, hemorrhoids, &c. Mr. Horne on ... 39
Catarrh of the frontal sinuses, Prof. Ogston on its treatment 225
——— of the nares in relation to sore-throat, Dr. Mackenzie on... ... 28
——— of the nose, Mr. Dalby on dry 166
Catheterism, Dr. Otis on the use of cocaine in 47
——— Mr. Horsley on the urethral fever attending 50
Cauldwell, Dr. C. M., on the treatment of night-sweats in phthisis ... 160
Cerebral nerves, Mr. Lee's case of syphilitic affection of 359
Cerebro-spinal fluid in fractures of skull, Mr. Lucas on the escape of ... 221
Cervix uteri, Dr. Macdonald on Emmet's operation in laceration of ... 89
——— ——— Dr. Playfair on Emmet's operation in laceration of 87
Charcot, Prof., on alcoholic paralysis 128
Charcot's joint disease, Mr. Jalland on a case of 239
Cheyne, Mr. W. W., on the bacillus of tubercle... 158
Children born of strumous parents, Dr. Burney Yeo on 122
Cholecystotomy, Messrs. Musser and Keene on 37
Cholera, Dr. Dreschfeld on recent observations on 102
Chorea, Dr. Sinclair on the use of conium juice in 22
Chromic acid, Dr. Jarvis on its use for removal of laryngeal growths ... 167
Chronic articular disease, Mr. Barwell on 241
——— diarrhœa, Dr. Mackenzie on nitrate of silver enemata in... ... 38
——— disease of the uterine appendages, Mr. Lawson Tait on 83
——— hypertrophic rhinitis, Mr. Watson on the treatment of 63
——— ulcers and long-standing skin disease, Dr. Shoemaker on jequirity in 64
Clark, Sir Andrew, on the nature of croupous pneumonia 156

PAGE.
Clavicle, Dr. Macgregor on its dislocation at the acromial end 233
——— Dr. Packard on the mechanism of displacement in fracture of ... 55
——— fractured, Dr. Wetmore on the "cravat method" of treatment ... 55
Club-foot, Dr. Wright on treating simple cases of congenital 249
——— Mr. Paul's new splint for 59
Climate in phthisis, Mr. Gerner on 28
Cocaine, Dr. Murrell on the new local anæsthetic 136
——— Dr. Otis on its use in catheterism 47
——— Editor of Medical Times on the clinical uses of 76
——— Mr. Benson on the transitory nature of the anæsthesia of ... 78
——— Mr. Hartridge on its action on the eye 363
——— Mr. Howe on its use in ophthalmic cases 78
——— as an anæsthetic for the genital mucous membrane, Dr. Frankel on 47
——— as a local anæsthetic in hemorrhoids, Mr. Edwards on 286
——— as an anæsthetic in ophthalmic practice, Dr. Koller on 361
——— as an anæsthetic in ophthalmic practice, Ed. Medical Times on ... 76
——— in pruritus ani, Mr. Malcolm Morris on... 318
——— in removal of vascular growths from female meatus, Dr. Godson on 49
Cold abscesses, Prof. Verneuil on injections of ether and iodoform in ... 61
Colles's fracture, Mr. Lucas's description of 234
Coma, uræmic and diabetic, Dr. Saundby on the theories of 191
Condylomata, syphilitic, on the treatment of 74
Congenital clubfoot, Dr. Wright on the treatment of simple cases of ... 249
Conium juice, Dr. Sinclair on its use in chorea 22
Conjunctiva, Mr. Benson on the effects of jequirity upon the 80
Constipation, Mr. Horne on the use cascara sagrada in 39
Convallaria majalis in cardiac diseases, M. Labêe on 26
Cooper, Mr. A., on the treatment of syphilis 369
Coghill, Dr. J. S., on a new form of vaginal pessary 412
Colley, Mr. N., on hernia of the vermiform appendix 285
Cornea, Mr. Walker on treating adhesions of the iris to the 345
Corns, bunions and warts, Dr. Shoemaker on oleate of copper ointment in 71
Corrosive sublimate as a surgical dressing, Sir. J. Lister on 201
Cousins, Dr. J. W., on a new aspirator and knife for use in paracentesis ... 260
Croupous pneumonia, Sir Andrew Clark on its nature 156
Crysophanic acid, Dr. Alder Smith on its use in recent ringworm... ... 67
Cullingworth, Dr. C. J., on a new operation for rupture of female perineum 376
Cyclitis, relapsing, Mr. Hutchinson on 338
Cystitis, tubercular, M. Terillon on 293
Cysts in the neck and their treatment, Mr. Morgan on 301

Dalby, Mr., on adenoid disease of naso-pharynx and disease of middle ear... 364
——— on dry catarrh of the nose 166
Detachment of retina, Dr. Wolfe on the treatment of 355
——— of retina cured by Wolfe's operation, Dr. Robertson on ... 358
Diarrhœa, chronic, Dr. Mackenzie on nitrate of silver enemata in ... 38
Digestion of fatty foods, Dr. Brunton on the 40
Dilator for urethral stricture, Mr. Walsham's new form of 294
Diphtheria, Dr. Renshaw on the treatment of 18
Disinfection of abdominal excreta, Dr. Russell on 19
——— of clothes and linen by washing, Dr. Russell on 125
Dislocation of clavicle at its acromial end, Dr. Macgregor on 233
Displacement, uterine, Dr. Graily Hewitt on 384
——— Dr. Reid on shortening the round ligaments for ... 386
Distension of the bladder, Mr. Jessett on aspiration in 48
Drainage of amputation stumps, Dr. Whitson on the 218
Drainage-tube, Macewen's decalcified chicken-bone 218
Dreschfeld, Dr. J., his recent observations on cholera 102
Dressing amputation stumps, Dr. Whitson on 218
Duménil, Prof., on recto-vesical fistula and its treatment by colotomy .. 287
Duncan, Dr. J. M., on "diseases and accidents" of uterine fibromata ... 394
——— on endometritis 398
——— on lupus of the pudendum 390
Dyspepsia, Dr Flint on the dietetic treatment of... 183
Dyspnœa in Bright's disease, Dr. Howard on some varieties of 194
Dupuytren's contraction of the fingers, Dr. Hardie on its treatment ... 236

PAGE.

Eczema, Dr. Shoemaker on the use of lead oleate in 66
——— Dr. Thin on the use of muslin ointments in 324
——— acute, Dr. Shoemaker on bismuth oleate in 71
Editor of Lancet on successful removal of lower rectum for cancer... ... 283
Editor of Medical Times on cocaine and its clinical uses 76
Edwards, Dr. W. A., on the clinical manifestations of rötheln 114
Edwards, Mr. F. S., on cucaine as a local anæsthetic in hemorrhoids ... 286
Effusion into the pleura, Mr Jessett on the treatment of 258
Electricity in nervous diseases, Dr. Benedictoff on 25
Empyema, Dr. Fulton on partial excision of ribs in 29
Endometritis, Dr. Matthews Duncan on 398
——— hemorrhagic, Dr. Macdonald on its treatment by erasion ... 84
Enuresis, nocturnal, Dr. Thurstan on large doses of belladonna in .. 49
Errors of refraction, Mr. Juler on the use of atropine in diagnosing ... 351
Erysipelas and sunburn, Dr. Shoemaker on bismuth oleate in 71
Erythema-lupus, Mr. Hutchinson's instance of cure of 315
Enucleation of eye-ball, Dr. Griffith on fatal meningitis following ... 353
Excessive local sweating, Dr. Shoemaker on the use of zinc oleate in ... 65
Extirpation of uterus by the vaginal method, Dr. Wallace on 84
Extraction of needles through the skin and tissues, M. Desprès on ... 65
Extra-uterine gestation. Dr. Braithwaite's cases of gastrotomy in... . 373
Eye, Mr. Hartridge on the action of cocaine on the 363
—— Mr. Hutchinson on relation of certain diseases of, to gout 331
Eyeball, Mr. Lee on the action of the external muscles on the 79

Fæcal vomiting without mechanical obstruction, Dr. Percy Kidd on ... 40
Fagan, Mr. J., on gastrostomy for stricture of the œsophagus 267
Fatty foods, Dr. Brunton on the digestion of 40
Femur, ununited fracture of, Mr. Robson's case treated by wire suture ... 56
Fenwick, Dr. S., on perforation of the vermiform appendix 176, 180
——— on stricture of the ileo-cæcal valve 169
Fevers, Professor Nothnagel on the antipyretic treatment of 104
——— insomnia of, Dr. Campbell on warm douching the head and neck in 17
Fibroids, uterine, Dr. Matthews Duncan on 394
Fibula, fractured, Dr. Levis on diagnosis and causes of 56
Finlayson, Dr. J., on the diagnosis of thoracic aneurism 141
Fissured eczema of palmar & plantar surfaces, Dr. Shoemaker on lead oleate in 66
Fistula, recto-vesical, Prof. Duménil on its treatment by colotomy .. 287
Flexions and displacements of the uterus. Dr. Graily Hewitt on 384
Flint, Dr. A., on the dietetic treatment of dyspepsia 183
Fœtid breath, Dr. M'Bride on some local causes of 161
Food, Dr. Milner Fothergill on malt extracts as 43
———Mr. McGill on animals dying of septic fever as 16
Foot and ankle-joint, Wladimiroff's osteo-plastic operation on 54
Fothergill, Dr. J. M., on gouty neuroses of the heart 145
Foulis, Dr. J., on the treatment of ringworm 69
Fracture, Colles's, Mr. Lucas's description of 234
——— of clavicle, Dr. Packard on mechanism of displacement in ... 55
——— of clavicle, Dr. Wetmore in its treatment by the "cravat method" 55
——— of femur, Mr. Robson's case treated by wire suture 56
——— of fibula, Dr. Levis on diagnosis and causes of 56
——— of patella, Dr. Burge on an apparatus for 248
——— of patella, Dr. Lediard's cases treated by wire suture 57
——— of skull, Mr. Lucas on escape of cerebro-spinal fluid in.. ..., 221
——— of thigh, Dr. Shirres's new long splint for 244
Freckles, and discoloured patches of skin, Dr. Shoemaker on oleate of copper in 71
Frontal sinuses, catarrh of, Prof. Ogston on its treatment 225
Gairdner, Dr. W. T., on peritonitis of lower abdomen—perityphlilis ... 172
Galabin, Dr. A. L., his case of transfusion of blood for puerperal hemorrhage 410
Gangrene of arm following vaccination, Mr. Lucas on 308
——— senile, Prof. Hutchinson on high amputation for 212
Gastric ulcer, M. Debove's treatment of.. 45
Gastrotomy in extra-uterine gestation, Dr. Braithwaite's cases of ... 373
——— in stricture of the œsophagus, Mr. Fagan on 267
Gaultheria (oil of wintergreen) Dr. Seelye on its use in rheumatism ... 108
Gelatine and traumaticin solutions in skin diseases, Dr. Thin on 322

PAGE.
German measles (Rötheln), Dr. Edwards on 114
Glands, strumous, Mr. Teale on the surgical treatment of 298
Glaucoma, Mr. Cross on the treatment of 79
Gonorrhœa, New York Med. Record on iodoform injections in 72
Gonorrhœal rheumatism, M. Terillon on 371
Goodhart, Dr. J. F., on renal disease in early and in middle life 188
Gout, Mr. Hutchinson on the relation of certain eye-diseases to 331
——— Mr. Hutchinson on the connexion of retinitis hemorrhagica with ... 342
——— Mr. Hutchinson on iritis from inherited 335
——— Prof. Dujardin-Beaumetz on the treatment of 112
——— Prof. Virchow on the relation of kidney disease to... 199
——— as a cause of optic neuritis, Mr. Hutchinson on 339
——— in relation to eye-diseases, Mr. Hutchinson on the proofs of ... 343
Gouty neuritis of the optic nerve, Mr. Hutchinson on 340
——— neuroses of the heart, Dr. Milner Fothergill on 145
Granville, Dr. J. M., on indications of treatment from use of sphygmograph 146
Grafts of skin from the frog, Dr. Allen on 326
————— from the prepuce, Mr. Clement Lucas on 327
————— from the prepuce, Mr. Chauncy Puzey on 329
Griffith, Dr. A. H., on fatal meningitis following enucleation of eye-ball ... 353
Gull, Sir W., on a case of thrombosis of mesenteric and renal veins ... 139

Hæmatocele, retro-uterine, Dr. Zweifel on 92
Hæmoglobinuria, winter, Prof. Nothnagel on 196
Hæmostatic, Mr. Gunning on the effect of hazeline as a 27
Halpin, Mr. R., on hazeline in hemorrhage from the bowels 182
Hardie, Dr. J., on the treatment of Dupuytren's contraction of fingers ... 236
Hartridge, Mr. G., on the action of cocaine on the eye 363
Hazeline as a hæmostatic agent, Mr. Gunning on 27
——— in hemorrhage from the bowels, Mr. Halpin on 182
Hay asthma, Dr. Thorowgood on the treatment of 153
—— fever, Dr. Sajous on its successful treatment 153
Heart, Dr. Fothergill on gouty neuroses of the 145
Heart disease, Dr. Mortimer Granville on use of the sphygmograph ... 146
————— and bronchitis, Dr. Wilks on diagnostic differences between 147
Hemorrhage from the bowels, Mr. Halpin on hazeline in 182
———— remote puerperal, Dr. Gaillard Thomas on 404
Hemorrhagic endometritis, Dr. Macdonald on erasion in... 84
Hemorrhoids, Mr. Edwards on cucaine as a local anæsthetic in 286
———— Mr. Horne on the use of cascara sagrada in 39
Hernia, Dr. Rabagliati on operation for radical cure of 41
——— Hagen-Torn on prevention of after laparotomy 42
——— Mr. Jessett on aspiration in 41
——— of the vermiform appendix, Mr. Davies Colley on 285
Hewitt, Dr. G., on flexions and displacements of the uterus 384
———— on the uncontrollable vomiting of pregnancy 381
High amputation for senile gangrene, Prof. Hutchinson on 212
Howard, Dr. R. P., on some varieties of dyspnœa in Bright's disease ... 194
Hutchinson, Prof. J., on an instance of cure of lupus erythematosus ... 315
————— on high amputation for senile gangrene 212
————— on the relation of certain eye diseases to gout ... 331
Hydrorrhœa gravidarum, Dr. Macdougall on 406
Hypertrophy of nose, Dr. Stowers on the treatment of vascular 311
Hypnotic, Andeer on the use of resorcin as a 24
——— Dr. Strahan on the action of paraldehyde as a 134

Ileo-cæcal valve, Dr. Fenwick on stricture of the 169
Ileus paralyticus, Dr. Percy Kidd on 40
Incision of chest, Dr. Cousins' new knife for 263
Incontinence of urine, Dr. Thurstan on large doses of belladonna in ... 49
Ingrowing toe-nail, Dr. Browne on the treatment of 66
Insomnia of continued fevers, Dr. Campbell on warm douching in ... 17
Intestinal obstruction, Dr. Fenwick on cases of 170
Intussusception, Mr. Treves on the spontaneous cure of 275
———— Mr. Treves on the treatment of... 277
Iodine and turpentine, Dr. Foulis on the use of in ringworm 68

PAGE.
Iodine disinfection, Dr. Richardson on the use of rhigolene for 20
Iodoform, Dr. Shingleton Smith on its action in tuberculosis 33
——— injections in gonorrhœa, formula for 72
Iridectomy in glaucoma, Dr. Richardson Cross on 79
Iris adhesions to the cornea, Mr. Walker on the treatment of 345
Iritis from inherited gout, Mr. Hutchinson on 335

Jacarana lancifoliata, Mr. Mennell on its use in syphilis 73
Jalland, Mr. W. H., on a case of Charcot's joint disease 239
Jarvis, Dr. W. C., on a new method for removing laryngeal growths ... 167
Jequirity, Mr. Benson on its effects on the conjunctiva 80
——— in chronic ulcers and long-standing skin disease, Dr. Shoemaker on 64
Jessett, Mr. F. B., on the pneumatic aspirator for diagnosing abdominal tumours 281
——— ——— on the treatment of effusion into the pleura 258
Joint disease, Charcot's, Mr. Jalland on a case of 239
Jones, Mr. T., on acute suppurative osteomyelitis 229
Juler, Mr. H., on the use of atropine in diagnosing errors of refraction ... 351

Kidney disease, Prof. Virchow on its relation to gout 199
Klein, Dr. E., on influence of antiseptics on micro-organisms 101
Knife and staff for lithotomy, Surgeon Boyd's new 416
Knee-joint, Prof. Bruns on a superior curved incision in resection of ... 57
Koller, Dr. K., on cocaine as an anæsthetic in ophthalmic practice .. 361

Labour, Dr. Smyly's practical rules for the third stage of 94
——— Dr. Walter on a point in the management of the third stage of ... 94
——— with kyphotic pelvis, Dr. Herman's case of 86
Laceration of arteries, Mr. Symonds on partial subcutaneous 254
——— of cervix uteri, Dr. Playfair on Emmet's operation for ... 87
——— of cervix uteri, Dr. Macdonald on Emmet's operation for ... 89
Lacto-phosphate of lime as an aid to nutrition, Dr. Pelletan on 186
Laparotomy, Hagen Torn on prevention of hernia after 42
Laryngeal growths, Dr. Jarvis' new method for removal of 167
Laryngismus stidulus, Prof. Widerhofer on the treatment of 30
Larynx, Dr. Jarvis on chromic acid in papilloma of the 31
Lee, Mr. H., his case of syphilitic affection of cerebral nerves 359
Lee, Dr. R. J., on the causes, prevention and treatment of vaccinal eruptions 305
Leg, artificial, Mr. Barwell on a cheap form of 246
Lemon decoction as an antipyretic, Dr. Maglieri on 15
Leprosy of the leg, anæsthetic, Mr. Neve on nerve stretching in 21
Lime, lacto-phosphate of, as an aid to nutrition, Dr. Pelletan on 186
Lister, Sir Joseph, on corrosive sublimate as a surgical dressing 201
Lithotomy, Surgeon Boyd's new knife and staff for 416
Liver, Dr. Greves on acute yellow atrophy of the 34
——— affections, Mr. Jessett on the use of the aspirator in 42
Lucas, Mr. R. C., his description of Colles's fracture 234
——— ——— on escape of cerebro-spinal fluid in fracture of the skull 221
——— ——— on gangrene of the arm following vaccination 308
——— ——— on prepuce grafting 327
Lupus, Dr. Stowers on erasion and nitrate of silver in 317
——— erythematosus, Mr. Hutchinson's instance of cure of ... 315
——— of the pudendum, Dr. Matthews Duncan on 390

M'Bride, Dr. P., on ozæna and some local causes of fœtid breath 161
Macgregor, Dr. A., on dislocation of clavicle at its acromial end 233
Malignant pustule, Dr. Jarnovsky on injections of phenol in 19
Malt extracts as food, Dr. Milner Fothergill on 43
Mastoid and tympanic disease. Dr. Wheeler on trephining in 366
Meningitis, fatal, following enucleation of eye-ball, Dr. Griffith on ... 353
Mercury, Mr. Cooper on its use in syphilitic affections 369
Micro-organisms, Dr. Klein on influence of antiseptics on 101
Middle ear, Mr. Dalby on disease of the... 364
Migraine, Dr. Allbutt on the treatment of 132
Morgan, Mr. J. H., on the treatment of cysts in the neck 301
Morris, Mr. M., on hydrochlorate of cucaine in pruritus ani 318
Murrell, Dr. W., on cocaine, the new local anæsthetic 136

PAGE.
Naphthaline, Dr. Stewart on its use in wounds, ulcers, burns, &c.... ... 72
Naso-pharynx, Mr. Dalby on adenoid disease of the 364
Neck, Mr. Morgan on the treatment of cysts in the 301
——— scrofulous, Mr. Teale on the treatment of 298
Needles, M. Desprès on extraction through the skin and tissues 65
——— and needle-holder, Hagedorn's surgical 415
Needle-holder, Dr. Ward Cousins' new surgical 414
Neuralgia, Dr. Garretson on excision of maxillary nerve for persistent .. 23
——— Eulenburg on injections of osmic acid in 23
Nerve stretching in anæsthetic leprosy of the leg, Mr. Neve on 21
Nervous diseases, Dr. Benedictoff on static electricity in 25
Night-sweats of phthisis, Dr. Cauldwell on the treatment of the 160
——— Dr. West on the use of pilocarpin in 30
Nocturnal enuresis, Dr. Thurstan on large doses of belladonna in ... 49
Nose, Dr. Stowers on the treatment of vascular hypertrophy of 311
——— Mr. Dalby on dry catarrh of the 166
Nutrition, Dr. Pelletan on lacto-phosphate of lime as an aid to 186

Œsophagus, Mr. Berry on the treatment of cancerous stricture of ... 271
——— Mr. Fagan on gastrostomy in stricture of the 267
Ogston, Prof. A., on catarrh of the frontal sinuses and its treatment ... 225
Oil of gaultheria (wintergreen) in rheumatism, Dr. Seelye on 108
Oleate of bismuth, Dr. Shoemaker its use in pustular eruptions 71
——— of copper, Dr. Shoemaker on its use in ringworm, warts, corns, &c.... 70
——— of copper, Dr. Weir on its employment in parasitic diseases ... 319
Oöphorectomy, double, Dr. Rabagliati's cases of... 402
Ophthalmia, Mr. Benson on the effects of jequirity in 80
——— neonatorum, Dr. Garrigues on Crede's treatment of 81
——— purulent, Mr. Browne on prolonged antiseptic irrigation in ... 349
Ophthalmic practice, Dr. Koller on cocaine as an anæsthetic in 361
——— Editor of Med. Times on the use of cocaine in ... 76
Optic neuritis, Mr. Hutchinson on gout as a cause of 339
Osmic acid, Mr. Merces on hypodermic injections of, in sciatica 24
——— Eulenburg on injections of, in neuralgia 23
Osteomyelitis, Mr. Jones on the treatment of 58
——— acute suppurative, Mr. Jones on its causes and symptoms ... 229
Osteo-plastic operation on foot and ankle-joint, Dr. Sklefassowsky's case... 54
Otorrhœa, Dr. Warden on its treatment by dry powders 81
Ovarian disease complicated with pregnancy, Porro's operation in ... 383
Ovaries, Dr. Meadows on action of conium and bromide of potassium on... 89
Ozæna, Dr. M'Bride on the causes and treatment of 162

Papilloma of the larynx, Dr. Jarvis on chromic acid in 31
Papular eczema, Dr. Shoemaker on lead oleate in 66
Paracentesis and aspiration, Dr. Ward Cousins' new instruments for ... 260
Paraldehyde, Dr. Strahan on the action of 134
Paralysis, alcoholic, Prof. Charcot on 128
——— alcoholic spinal, Dr. Broadbent on 130
Parasitic diseases, Dr. Weir on oleate of copper in 319
Parker, Mr. R. W., on some complications of tracheotomy 264
Patella, fracture of, Dr. Burge on a new apparatus for 248
——— Dr. Lediard's cases treated by wire suture 57
Paul, Mr. F. T., his new splint for talipes 58
Pelletan, Dr. J., on lacto-phosphate of lime as an aid to nutrition... ... 186
Pelvic anodyne, Dr. Meadows on conium and bromide of potassium as a ... 89
Pelvis, kyphotic, Dr. Herman's case of 86
Pemphigus, acute, Dr. Duckworth on a fatal case of 62
Peptone in the urine, Maixner and others on 200
Perforation of the vermiform appendix, Dr. Fenwick on 176
——— of the vermiform appendix, Dr. Fenwick on its treatment ... 180
Perineum, female, Dr. Cullingworth's new operation for rupture of ... 376
Perityphlitis, Dr. Gairdner on 172
Persistent neuralgia, Dr. Garretson on excision of nerve for 23
Pessary, Arnold & Sons' glycerine pad pessary 90
——— vaginal, Dr. Coghill's new form of 412
Phymosis, Mr. Richmond on its treatment without operation 296

PAGE.
Phthisis, Dr. Cauldwell on the treatment of the night-sweats of 160
——— Dr. West on pilocarpin in the night-sweats of 30
——— Mr. Gerner on climate in 28
Pilcher, Dr. L. S., on turf-moss and sawdust as surgical dressings .. 210
Pilocarpin in bronchitis, Dr. West on the inefficacy of 28
——— in the night-sweats of phthisis, Dr. West on 30
Pleura, Mr. Jessett on the treatment of effusion into the 258
Pleuritic effusions, Mr. Jessett on aspiration in diagnosis of 32
Pneumonia, croupous, Sir Andrew Clark on its nature 156
Polyuria in convalescence from typhoid fever, Dr. Spitz on 49
Porro's operation in ovarian disease complicated with pregnancy 383
Post-partum avulsion of the uterus, Mr. Walters on a case of 380
Pregnancy, Dr. F. Barnes on diagnosis during early months 90
——— Dr. Hewitt on the uncontrollable vomiting of 381
——— Porro's operation in ovarian disease complicated with 383
Prepuce, Mr. Clement Lucas on skin grafts from the 327
——— Mr. Chauncy Puzey on skin grafts from the 329
Pruritus ani, Mr. Morris on hydrochlorate of cocaine in 318
——— of pregnancy, Dr. Neale on remedies for 90
Psoas abscess with spinal caries, Mr. Treves on its treatment 227
Psoriasis, Dr Thin on traumaticin and gelatine solutions in 323
Pudendum, Dr. Matthews Duncan on lupus of the 390
Puerperal hemorrhage, Dr. Galabin's case of transfusion of blood in .. 410
——— Dr. Gaillard Thomas on remote 404
——— septicæmia, Dr. Boardman on iodoform insufflation in .. 91
Puff-ball in uterine hemorrhage, Mr. Duncan on the 95
Purulent ophthalmia, Mr. Browne on prolonged antiseptic irrigation in ... 349
Pustular eczema of infants, Dr. Shoemaker on lead oleate in 66
Puzey, Mr. Chauncy, on prepuce grafting 329

Quinlan, Dr. F. J. B., on salicin and the salicylates in rheumatic fever ... 106

Rabagliati, Dr., his cases of double oöphorectomy 402
Recto-vesical fistula, Prof. Dumenil on its treatment by colotomy ... 287
Reid, Dr. W. L., on shortening the round ligaments for uterine displacements 386
Relapsing cyclitis, Mr. Hutchinson on 338
Removal of lower rectum for cancer, Editor of Lancet on 283
Renal coma, Dr. Saundby on 191
——— disease, Dr. Goodhart on in early and in middle life 188
Resection of knee, Prof. Bruns on a superior curved incision in 57
——— of small intestine in artificial anus, Mr. Makins on 35
Resorcin as a hypnotic, Andeer on 24
Retina, Dr. Wolfe on the treatment of detachment of the 355
Retinal detachment cured by Wolfe's operation, Dr. McGregor Robertson on 358
Retinitis hemorrhagica, Mr. Hutchinson on its connexion with gout ... 342
Rheumatic fever, Dr. Quinlan on salicin and the salicylates in 106
Rheumatism, Dr. Seelye on oil of gaultheria (wintergreen) in 108
——— gonorrhœal, M. Terillon on 371
Rhigolene, Dr. Richardson on the uses of 20
Rhinitis, chronic hypertrophic, Mr. Watson on the treatment of 63
Richmond, Mr. W. S., on the treatment of phimosis without operation ... 296
Ringworm, Dr. Foulis on turpentine and iodine in 68
——— Dr. Alder Smith on crysophanic acid in recent 67
——— Dr. Shoemaker on boroglyceride in 70
——— Dr. Shoemaker on oleate of copper ointment in 70
——— Dr. Weir on oleate of copper in 321
——— Mr. Bernard on washing the scalp in 68
——— Mr. Malcolm Morris on the treatment of 68
Robertson, Dr. J. McG., on detachment of retina cured by Wolfe's operation 358
Robinson, Dr. T., on acute rosacea and its treatment 312
Rotheln, Dr. Edwards on the clinical manifestations of 114
Rupture of female perineum, Dr. Cullingworth's new operation for ... 376
Russell, Dr. J. B., on disinfection of clothes and linen 125

Sajous, Dr. C. E., on hay fever and its successful treatment 153
Salicylate of sodium, Dr. Dreschfeld on the rarer accidental effects of ... 15
Saundby, Dr. R., on renal coma 191

PAGE.
Sawdust as a surgical dressing, Dr. Pilcher on 211
Scalds and burns, Dr. Browne on the treatment of 324
Scarlet fever in pregnancy, Dr. Leale on 92
Sciatica, M. Debove on the local application of intense cold in 25
——— Mr. Merces on hypodermic injection of osmic acid in 24
Scrofulous neck, Dr. Allbutt on the causes and treatment of 116, 120
———— Mr. Teale on the surgical treatment of 298
Seelye, Dr., on oil of gaultheria as a remedy in rheumatism 108
Senile gangrene, Prof. Hutchinson on high amputation for 212
Septicæmia, puerperal, Dr. Boardman on iodoform insufflation in... ... 91
Shirres, Dr. G., on a new long splint for fracture of the thigh 214
Shoemaker, Dr. J. V., on the treatment of ringworm 70
———— on jequirity in chronic ulcers and other skin diseases 64
Skin-grafts from the frog, Dr. Allen on 326
——— from the prepuce, Mr. Clement Lucas on 327
——— from the prepuce, Mr. Chauncey Puzey on 329
Skull, Mr. Lucas on escape of cerebro-spinal fluid in fractures of 221
Soft sores, Prof. Hebra on the abortive treatment of 73
Sore nipples, Dr. Shoemaker on bismuth oleate in 72
—— throat, Dr. Mackenzie on catarrh of the nares in relation to 28
Spiny pelvis and its obstetric consequences, Dr. Hofmeier on the 93
Sprains, M. See on treatment of by the elastic bandage 71
Stenosis, tricuspid, M. Chauffard on 27
Stone in the bladder, Sir H. Thompson's case of supra-pubic operation for 288
———— Surgeon Boyd's lithotomy knife and staff 416
Stowers, Dr. J. H., on erasion and nitrate of silver in lupus 317
———— on the treatment of vascular hypertrophy of nose ... 311
Strahan, Dr. S. A. K., on the action of paraldehyde 134
Stricture of ileo-cæcal valve, Dr. Fenwick on 169
——— œsophagus, Mr. Fagan on gastrotomy in 44
——— œsophagus, cancerous, Mr. Berry on the treatment of ... 45
——— urethra, Dr. Greig Smith on an undescribed form of 50
——— urethra, Mr. Walsham's new form of dilator for 294
Strumous glands, Mr. Teale on the surgical treatment of 298
———parents, Dr. Yeo on management of children born of 122
Sulpho-carbol as an antiseptic, M. Vigier on 21
Surgical dressings, Dr. Pilcher on turf-moss and sawdust as 210
——— dressing, Sir J. Lister on corrosive sublimate as a 201
——— needles and needle-holder, Dr. Hagedorn's 415
——— needle-holder, Dr. Ward Cousins's 414
Sweating, Dr. Shoemaker on zinc oleate in excessive local... 65
Sphygmograph, Dr. Granville on indications of treatment from use of ... 146
Syphilis, Mr. Cooper on the mercurial treatment of 369
——— Mr. Mennell on the use of jacarana lancifoliata in 73
——— Prof. Hebra on the abortive treatment of soft sores 73
Syphilitic affection of cerebral nerves, Mr. Lee's case of 359
——— condylomata, use of salicylic acid and boracic acid in 74
Sycosis and pustular eruptions, Dr. Shoemaker on bismuth oleate in ... 71
Symonds, Mr. C. J., on partial subcutaneous laceration of arteries ... 254

Tait, Mr. L., on removal of uterine appendages... 92,100
Talipes, Mr. Paul's new splint for 58
Tapping and exploring, Dr. Cousins' new antiseptic trocar for 261
Teale, Mr. T. P., on the surgical treatment of strumous glands 298
Terillon, M., on gonorrhœal rheumatism 371
———— on tubercular cystitis 293
Thigh, fracture of, Dr. Shirres's new long splint for 244
Thin, Dr. G., on some new methods in the treatment of skin diseases ... 322
Thomas, Dr. T. G., on remote puerperal hemorrhage 404
Thompson, Sir H., case of supra-pubic operation (Petersen's) for large stone 288
Thoracic aneurism, Dr. Finlayson on laryngeal paralysis and inequality of pupils 141
Thorowgood, Dr. J. C., on remedies for asthma 150
Thrombosis of mesenteric and renal veins, Sir W. Gull on a case of .. 139
Tinea, Dr. Weir on its treatment by oleate of copper 321
Toe-nail, ingrowing, Dr. Browne on the treatment of 66
Tongue, catarrh of, as a cause of fœtid breath, Dr. M'Bride on 165

PAGE.
Tonsillitis, Dr. M'Bride on chronic follicular 162
——— Dr. Partagas on bicarbonate of soda in 32
Tracheotomy, Mr. Parker on some complications of 264
——— ——— tubes, Mr. Battams on clearing 266
Transfusion of blood for puerperal hemorrhage, Dr. Galabin's apparatus for 410
Trephining in mastoid and tympanic disease, Dr. Wheeler on 366
Treves, Mr. F., on the direct treatment of psoas abscess 227
——— ——— on spontaneous cure and treatment of intussusception ...275, 277
Tricuspid stenosis, M. Chauffard on 27
Tubercle, Dr. Cheyne on the bacillus of 158
Tubercular cystitis, M. Terillon on 293
——— ——— infection, Editor of British Medical Journal on 32
Tuberculosis, Dr. Shingleton Smith on the action of iodoform in 33
Turf-moss as a surgical dressing, Dr. Pilcher on... 210
Tympanic disease, Dr. Wheeler on trephining in mastoid and 366
Typhoid fever, Dr. Spitz on polyuria in convalescence from 49

Ulcer of the stomach, M. Debove's treatment of 45
Ulcers, Dr. Stewart on the use of naphthaline in 72
——— chronic, Dr. Shoemaker on the use of jequirity in... 64
Urine, Dr. Roberts on a modification of the nitric acid test for 46
——— Maixner and others on peptone in the 200
Urethral fever, Mr. Horsley on its nature and prevention 50
——— stricture, Dr. Greig Smith on an undescribed form of 50
——— stricture, Mr. Walsham's new form of dilator for 294
Uterine appendages, Mr. Lawson Tait on chronic disease of the 83
——— appendages, Mr. Tait on removal of, for inflammatory disease ... 91
——— displacements, Dr. Graily Hewitt on 384
——— displacements, Dr. Reid on shortening the round ligaments for ... 386
——— fibromata, Dr. Matthews Duncan on "diseases and accidents" of 394
——— hemorrhage, Mr. Cameron on alcoholic injections in 94
——— hemorrhage, Mr. Duncan on the puff-ball in 95
——— myoma, Mr. L. Tait on removal of uterine appendages in ... 100
Uterus, Dr. Hewitt on causes of the uncontrollable vomiting of pregnancy 381
——— Dr. Wallace on the vaginal extirpation of 84
——— Mr. Walter's case of post-partum avulsion of the 380

Vaccinal eruptions, Dr. Lee on causes, prevention, and treatment of ... 305
Vaccination, Mr. Lucas on gangrene of arm following 308
Vascular growths, Dr. Godson on cocaine in removal of, from female meatus 49
Vermiform appendix, Dr. Fenwick on perforation of the 176
——— ——— Mr. Davies Colley on hernia of the 285
——— ——— and cæcum, Dr. Mahomed on concretions in .. 39
Vesical calculus in the female, Surg. Major Beaumont on 51
Virchow, Prof. R., on the relation of kidney disease to gout 199
Vomiting of pregnancy, Dr. Hewitt on the causes of uncontrollable ... 381

Walker, Mr. G. E., on treating adhesions of the iris to the cornea 345
Walsham, Mr. W. J., his new form of dilator for urethral stricture ... 294
Walters. Mr. J. H., on post-partum avulsion of the uterus 380
Washing out the bladder, Mr. Buckston Browne's simple method of .. 291
——— ——— ——— "Beaver's" method of 52
Weir, Dr. F. C. S., on the use of oleate of copper in parasitic diseases ... 319
Wheeler, Dr. W. I., on trephining in mastoid and tympanic disease .. 366
Whitson, Dr. J., on drainage and dressing of amputation stumps 218
Wilks, Dr. S., on diagnostic differences between bronchitis and heart disease 147
Wintergreen, Dr. Seelye on its use in rheumatism 108
Winter hæmoglobinuria, Prof. Nothnagel on 196
Wolfe, Dr. J. R., on the treatment of detachment of the retina 355
Wood-wool and corrosive sublimate in antiseptic surgery, Prof. Billroth on 60
Wounds, Dr. Stewart on the use of naphthaline in 72
Wright, Dr. G. A., on the treatment of congenital club-foot 249

Yeo, Dr. I. B., on management of children born of strumous parents .. 122

PRINTED FOR D. I. ROEBUCK, AT
GOODALL AND SUDDICK'S PRINTING WORKS, COOKRIDGE STREET, LEEDS.